

EXECUTIVE SUMMARY

SUMMARY OF IMPACTS PROPOSED PROJECT AND ALTERNATIVES

ES.1 INTRODUCTION

The California State Lands Commission (CSLC) is considering granting a new 20-year lease of California sovereign lands to Shore Terminals, LLC (Shore), which would allow Shore to continue to operate its Martinez marine terminal. The marine terminal is located on the south side of Carquinez Strait, approximately one mile east of the Benicia Bridge in the city of Martinez in Contra Costa County. Since the previous lease term ended in 1998, the new lease would allow Shore to continue current operations until 2018.

Shore is an independent, privately owned trans-shipper of crude oil and petroleum products. Shore operates the marine terminal and storage facilities in an industrial area of the city of Martinez east of Interstate 680. Shore owns 217 acres, of which the upland storage facilities occupy 70 acres of private land, with approximately 143 acres remaining vacant. The marine terminal is on 5.04 acres of public land leased from the CSLC, with the upland storage facilities located on private land.

The CSLC has prepared this Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act (CEQA) to analyze the environmental impacts associated with operations under the renewed lease. This EIR assesses the potential for environmental impacts associated with continued operation of the Shore marine terminal with particular emphasis on oil transfer operations at the terminal, vessel transit along shipping routes, and upset (accident) conditions within Carquinez Strait, San Francisco Bay and along the outer coast. This EIR will provide the CSLC the information required to exercise its jurisdictional responsibilities for the proposed new lease.

ES.2 PROPOSED PROJECT

Wharf Configuration

Under the Proposed Project, the wharf's operations would continue for a 20-year period if the lease is granted. The wharf is a single-vessel docking facility with associated pumps, pipelines, electrical utilities and other mechanical equipment. Cargo pumps for vessel loading are located in the upland portion of the facility, about one mile from the wharf. The upland property contains storage tanks, a truck loading rack, an inactive rail spur, pumps and associated pipelines, vapor collection and combustion systems, and an office building.

The terminal consists of a 40-foot by 100-foot concrete wharf supported by pre-stressed concrete piles that is 956 feet long. The wharf is parallel to Bulls Head Channel running

1 approximately east and west, and located approximately one mile east of the Benicia
2 Bridge. The wharf is connected to land by a 1,700-foot-long elevated wooden trestle
3 that carries an 11-foot-wide roadway and a pipe rack. It operates as a barge and tanker
4 loading/unloading facility, 24 hours a day, 365 days per year.

5
6 There are two breasting dolphins (sturdy pilings for protecting the wharf from moored
7 vessels) and one mooring dolphin (piling to attach vessel's mooring line) on either side
8 of the wharf, connected by a walkway. The corners of the wharf and the breasting
9 dolphins have 100-ton bollards. The mooring dolphin has double 100-ton quick-release
10 hooks with 3,000-pound capacity electric capstans and slide plates. The wharf and
11 breasting dolphins have fenders. Containment booms are located on each end of the
12 breasting dolphins.

13
14 The wharf is a single berth dock, accommodating one vessel at a time. Historically, the
15 wharf has handled vessels with displacements up to 106,000 dead weight tonnage
16 (DWT). The current Coast Guard-approved Shore Operations Manual limits present
17 wharf usage to vessels up to 950 feet in length and 150,000 DWT displacement.

18
19 The north side of the wharf is periodically dredged to maintain a minimum draft of minus
20 38-feet mean lower low water (MLLW). Historically, dredging of approximately
21 6,000 cubic yards of sediment approximately every three years has maintained this
22 depth.

23
24 The wharf operates hydraulic loading/unloading arms that provide "dark service" (crude
25 oil or fuel oil) with connections to upland tanks through insulated pipelines, as well as
26 "clean product" service (gasoline, diesel, oxygenates), with connections to upland tanks.
27 A marine vapor hose collects and recovers vapors displaced during vessel loading
28 operations. The displaced vapors are transported through the vapor recovery line to the
29 thermal oxidizer located onshore. The oxidizer is used during loading operations with
30 crude oil, gasoline and other products with highly volatile vapors. It is not required
31 during off-loading operations or loading operations of non-volatile products.

32
33 The Shore pipelines run on a 6,000-foot low profile pipe rack along the west side of the
34 wharf access road. Of this total, the pipe rack runs 1,300 feet over open water on the
35 wharf itself, 500 feet over open marshlands along Suisun Bay, and the remainder rests
36 in a graded area at the edge of the marsh. The rack carries product lines, a vapor
37 recovery line, and necessary water and electrical connections for the wharf. All
38 pipelines from the wharf to the tank farm are above ground, set on pipe racks (squat "H"
39 frame steel supports).

40 41 **Wharf Throughput**

42
43 The throughput of the terminal is governed by the Bay Area Air Quality Management
44 District (BAAQMD) permit that limits maximum allowable emissions from the entire
45 facility, both marine terminal and upland tanks. Throughput is also governed by the
46 storage capacity of the upland tanks. The terminal handles a variety of light and dark
47 petroleum products and oxygenates as listed below:

1 Light Products: finished gasoline, gasoline components and blend stocks, jet fuels,
2 diesel fuels, cutter stocks.

3
4 Dark Products: crude oils, gas oils, residual materials, condensates and other refinery
5 or petrochemical feedstocks.

6
7 Oxygenates: While Shore maintains capability to handle oxygenates, Shore is phasing
8 out methyl tertiary butyl ether (MTBE), does not currently transfer other oxygenates and
9 plans no future transfers. Instead Shore is preparing for customer requests for future
10 ethanol storage.

11
12 The Shore Martinez terminal serves adjacent refineries and participates in the logistic
13 chain associated with refinery inbound and outbound shipments. This activity would not
14 change during the proposed lease period. Inbound marine shipments of crude are
15 expected to continue, and the development of new inland crude sources within
16 California, such as Bakersfield, to replace marine shipments is not expected.

17
18 Refinery storage needs for refined products are also expected to continue. Accordingly,
19 Shore projects that crude and refined products will continue to be stored and handled at
20 the terminal in approximately the same quantities and ratios as they have been for the
21 past several years. Those quantities approximate 20 million barrels (bbls) for vessel
22 receipts, 5 million bbls for vessel deliveries, and 25 million bbls for total vessel
23 throughput.

24 25 **Vessel Calls at the Marine Terminal**

26
27 Shore Terminals leases tankage to various companies who utilize tank vessels and
28 pipelines to deliver crude oil and products. These commodities ship out of the facility by
29 tank vessel, rail, truck, and pipeline. The facility averages from two to four vessel calls
30 per week. An annual average of 117 tankers and barges called on Shore's terminal
31 over the four year period from 1994 through 1997, and rose to an annual average of
32 178 tankers and barges for the five-year period from 1998 through 2002. None of the
33 tankers are owned by Shore. The tankers calling on Shore's terminal typically range in
34 size from 27,000 DWT to 63,000 DWT. While engineered to accommodate vessels up
35 to 150,000 DWT, the depth of the water and bridges clearances are limiting factors for
36 the sizes of vessels calling at the Shore facility. The 1998 through 2002 annual average
37 of 178 vessel calls is used as the baseline condition for the EIR analysis.

38
39 Market conditions could drive the need to change the ratio of crude/refined product
40 storage in the existing onshore tankage. Given the limited footprint of the site, new
41 onshore tank construction would be limited to an additional 2 million bbls (including
42 300,000 bbls of tankage now permitted for construction). Pipeline operations, not wharf
43 activity, would drive the need for additional storage, and no modifications to the wharf
44 are proposed, as in its current configuration, the wharf is capable of handling additional
45 vessels. If onshore tankage were increased, the annual vessel calls could reach a
46 maximum of 325 annual vessel calls over the 20-year term of the proposed lease.

ES.3 DESCRIPTION OF ALTERNATIVES

ES.3.1 Alternatives Considered for Evaluation in the EIR

No Project Alternative

The CSLC could deny Shore Terminals a new lease, which would require Shore to cease operation of the marine terminal, resulting in no tanker traffic. As provided by the current lease, the wharf at the marine terminal could be removed if the lease were terminated. Decommissioning and/or deconstruction of the wharf, or any other proposed reuse of the wharf, would require a separate CEQA review, as details associated with decommissioning and/or deconstruction would need to be developed. For the purposes of this EIR, deconstruction impacts are discussed briefly.

The Shore Martinez terminal serves nearby refineries between Rodeo and Martinez, and participates in the logistic chain associated with those refiners' inbound and outbound shipments. With no Shore marine terminal, other area marine terminals would be required to make up the difference of having no tanker traffic at Shore, in order to continue to meet regional refining demands. Use of other area terminals is examined as part of the two alternatives below, which examine options for continued operation of Shore's upland facility.

Increased Use of Existing Pipelines for Continued Operation of Upland Facility Alternative

As a consequence of the No Project Alternative, it is assumed that Shore's upland facility would continue to function to provide warehousing for local refiners to store and transport petroleum. With no marine terminal, the upland facility would continue to operate via land-based pipelines.

This alternative assumes that the Shell Martinez, Valero Benicia, and Tesoro Amorcito wharves have some capability of increasing transfer operations, and that the existing pipelines have the capacity to transfer offloaded oil to Shore for temporary storage until needed by these refiners. Through agreements with these refiners to increase shipping operations combined with greater use of available pipeline capacity, this alternative assumes that the Shore upland facility could continue to be utilized as a temporary storage facility. Since the connections for moving oil both to and from the Shore upland facility to these three refiners are already in place, no construction would be involved in using these pipelines. Since Kinder Morgan does not have a marine terminal in the area, but relies on the area terminals, continued delivery of refined petroleum products from Shore is assumed for this alternative. The increased use of the three nearest marine terminals is evaluated in the alternative analysis.

It is noted that this alternative is based on general assumptions and is provided to generally show the differential in environmental impacts if the Shore marine terminal would be removed. A detailed technical and economic feasibility study has not been conducted, but would be necessary if this alternative were to be selected. Bay area

1 refineries rely heavily on marine crude oil supply. The availability of wharf space to
2 offload tank ships is a primary consideration, and may be a greater limitation than that of
3 storage tankage. This has not been evaluated in detail for this conceptual alternative.

4 5 **Modification to Existing Pipelines for Continued Operation of Upland Facility** 6 **Alternative**

7
8 Shore also has connections to the inactive PG&E fuel oil line that could transfer crude
9 oil both to and from Shore with possible connections to Shore Selby, ConocoPhillips
10 Rodeo, and the Chevron Richmond Long Wharf to the west, and extends east to the city
11 of Pittsburg, ending near the former PG&E Pittsburg Power Plant. In 1998, an
12 approximately 4,000-foot section of the pipeline was severed in the city of Martinez to
13 allow for installation of two additional tracks and relocation of the Martinez Intermodal
14 Railway Station. The severed section of the pipeline was capped, filled with a
15 sand/cement slurry mix and retained in place. The remaining ends of the pipeline were
16 extended beyond the location of the new railroad tracks and capped for future
17 reconnection. Acquisition or agreements to use this line would be required with PG&E
18 and the California Public Utilities Commission (CPUC). This alternative assumes that
19 use of this line would require examination of pipeline integrity, construction to reconnect
20 the segment in the city of Martinez, and construction of connections to the marine
21 terminals at Shore Selby, ConocoPhillips Rodeo, and the Chevron Richmond Long
22 Wharf.

23 24 25 **ES.3.2 Alternatives Considered and Eliminated from Further Evaluation**

26 27 **Land-Based Transportation Alternatives for Continued Operation of Upland** 28 **Facility Alternative**

29
30 There is an unused rail line into the Shore facility, but the handling facilities, while
31 permitted, have not been built. Rail was eliminated as an alternative due to time and
32 labor required to fill barrels, load them onto rail cars, and ship them from approximately
33 one to ten miles to the refiners, and then unload the rail cars and unload the barrels.
34 Although economics are not evaluated, this alternative would be of much higher cost
35 than the alternatives of using existing pipelines or slight modifications to existing
36 pipelines.

37
38 The number of trucks that would be required for transfer of oils to nearby refiners would
39 exceed the capacity of the two-lane Waterfront Road that provides access to Shore.
40 And, as above, use of trucks would be labor extensive and thus, trucks have also been
41 eliminated as an alternative.

42 43 **New Pipelines for Continued Operation of Upland Facility Alternative**

44
45 Design and construction of a new pipeline system to transfer 25 million barrels per year
46 (bpy) comprises an extensive and complex process. Because capacity appears to be

1 available in existing pipelines, consideration of new pipelines was considered to be
2 infeasible as an alternative for the Shore facility. This alternative has been eliminated
3 from further consideration.

4 5 6 **ES.4 APPROACH TO PROJECT ANALYSIS** 7

8 The CEQA Guidelines require a description of the environmental setting before the
9 commencement of the project in order to examine and analyze the effects of the
10 physical change in the environment after the project is completed. Because the Shore
11 terminal is an operating facility, this EIR examines the impacts of continued operation of
12 the terminal.

13
14 The impact analysis focuses both on routine operating conditions of the marine terminal
15 and accidents that could occur during routine operations. Routine operations are those
16 daily activities involved in receipt of crude and transfer of product between vessels, and
17 the transit of vessels from the Golden Gate to/from the marine terminal. Accident
18 conditions addressed include fire, explosions, and spills, and their resultant
19 consequences. This document addresses briefly impacts from tankering along the outer
20 coast.

21
22 As part of the impact analyses, the consequences of oil spills that could result from
23 accidents are evaluated. The Unocal Marine Terminal Lease Consideration EIR
24 (Chambers Group 1994), Shore Terminal's Oil Spill Response Plan (BlueWater
25 Consultants 2001), and pertinent Clean Bay oil spill trajectory models as contained in
26 Wickland's Application Responses and Supporting Appendices (Wickland 1998)
27 contained extensive oil spill modeling that show that oil spread can potentially cover the
28 entire area between I-80 and the Delta entrance, which is near West Pittsburgh. Thus,
29 it is assumed that any sensitive resources throughout that area could be oiled. The
30 analyses for accident conditions in this EIR examine the potential impacts to sensitive
31 environmental resources between I-80 and the Delta entrance, and provide specific
32 mitigation to be conducted by Shore to reduce or eliminate impacts. The primary
33 analysis focuses on the terminal and the area between I-80 and the Delta, with
34 secondary and tertiary emphasis on the Bay and outer coast, respectively.

35
36 For the impacts discussion, significance was classified according to the following
37 definitions:

- 38
39 ➤ Class I – (significant adverse impact that remains significant after mitigation);
40 ➤ Class II – (significant adverse impact that can be eliminated or reduced below an
41 issue's significance criteria);
42 ➤ Class III – (adverse impact that does not meet or exceed an issue's significance
43 criteria); or
44 ➤ Class IV – (beneficial impact).
45
46

ES.5 SUMMARY OF IMPACTS

A summary of the significant impacts (Class I and Class II), mitigation measures, and residual impacts for the Proposed Project is presented in Table ES-1 located at the end of the section. A summary of the impacts for the Proposed Project and alternatives is provided in the text below.

ES.5.1 Operational Safety/Risk of Upset

ES.5.1.1 Proposed Project

Spill Response Capability Based on Potential for Spills at the Marine Terminal

The analysis determined the annual probability of spills from the terminal for spills of any size as well as for spills ranging from less than 1 gallon to more than 42,000 gallons (1,000 barrels (bbls)). The analysis was conducted for the baseline average of 178 annual vessel calls and for the expected maximum number of vessel calls (325) over the lease period. The results are shown below.

Annual Probability of Spills from the Terminal

Annual Number of Vessel Calls	Baseline Average 178 Vessel Calls	Maximum over Lease Period 325 Vessel Calls
Annual probability of a spill of any size	0.56 once every 1.8 years	0.78 once every 1.3 years
Annual probability of a spill > 1 gal	0.32 once every 3.2 years	0.50 once every 2.0 years
Annual probability of a spill > 10 gal	0.22 once every 4.6 years	0.36 once every 2.8 years
Annual probability of a spill > 100 gal	0.11 once every 9 years	0.19 once every 5.3 years
Annual probability of a spill > 1,000 gal	0.04 once every 25 years	0.07 once every 14 years
Annual probability of a spill > 42,000 gal (1,000 bbl)	0.007 once every 150 years	0.012 once every 80 years

The consequences of a spill would depend on the size of the spill, the effectiveness of the response effort, and the biological, commercial fishery, shoreline, and other resources affected by the spill.

Response Capability during Transfer Operations

Shore terminal meets all federal and state requirements for response capabilities. Shore and its response contractors are expected to be able to prevent a small spill of less than 10 gallons from causing significant impacts. Spills can occur from pipelines as well as from vessel transfer operations. In most cases, the response capability is considered adequate to contain a spill of 50 bbl or less and prevent it spreading over a

1 wide area. However, it may not be possible to contain and recover all of the oil from a
2 50 bbl spill, nor is it likely that the terminal would be able to contain and recover all the
3 oil from a release of greater than 1,000 bbl. Based on the anticipated spills and on the
4 impacts to resources (discussed in other sections of this EIR), the impact of spills would
5 be adverse and significant, and range from spills that can be contained during first
6 response efforts with rapid clean-up (Class II) to complex spills that result in significant
7 impacts (Class I) with residual effects after mitigation.

8 9 Spills from Wharf Deck Drainage System

10
11 Based on an onsite visit, there are no significant deficiencies with the wharf drainage
12 system, existing controls or procedures that would pose a risk for, or increase in, the
13 potential for spills at the terminal associated with routine operations. Thus, impacts
14 from routine operations are considered less than significant (Class III).

15 16 Spills of Gasoline

17
18 Gasoline is highly flammable and evaporates quickly. The Shore Oil Spill Response
19 Plan addresses measures to follow if a gasoline spill occurs. The response method is
20 accepted, thus potential impacts related to a gasoline spill are less than significant
21 (Class III).

22 23 Wharf Operations Manual

24
25 The Wharf Operations Manual addresses wharf operations, including responses to
26 emergency situations such as spills and fires. The Operations Manual requires minor
27 revisions make it current, including updating names of responsible persons at the
28 terminal and the names of the response contractors. In order to assure that this action
29 will occur under the new lease, it has been identified as a significant impact (Class II).

30 31 Potential for Fires and Explosions at the Marine Terminal

32
33 Fires and explosions involving vessels and/or the terminal are possible even though no
34 fires or explosions have been reported at the Shore marine terminal during the past ten
35 years. Shore has instituted several measures to minimize the potential for fires and
36 explosions. First, vessels loading or unloading low-flash cargoes (cargoes having a
37 flash point of less than 150°F) are required to have properly operating inert gas systems
38 (IGS) which inject gas into cargo tanks to displace the oxygen to a level that will not
39 support ignition. Wharf personnel verify that the tanks are inert and that the IGS is
40 working properly before transfer operations can commence. Products with flash points
41 greater than 150°F do not generate enough vapors to support ignition unless the
42 product is heated to a temperature above 150°F.

43
44 A second potential area for a fire or explosion is the Vapor Control System (VCS) which
45 is equipped with numerous safety features and is U.S. Coast Guard (USCG) certified.
46 Based on the safety features at the Shore terminal, an expected mean time between
47 fires or explosions at the Shore terminal of 4,100 years is estimated. A fire could
48 generate radiant heat and an explosion could create flying debris and blast

1 overpressure that could cover a “hazard footprint” area. The radiant heat footprint
2 capable of causing second-degree burns to exposed skin after 30 seconds of exposure
3 (1,600 British thermal units [BTU] per square foot per hour) was calculated to be
4 300 feet around the ships. An explosion involving one of the tanks could send flying
5 debris up to 1,500 feet from the ship.

6
7 Neither the radiant heat nor the flying debris hazard footprint is expected to pose a
8 significant hazard to the public because no public assemblage areas occur within
9 1,500 feet of the wharf area, and the pier is 1,700 feet long. Thus, the potential to result
10 in a public safety impact from fires and explosions is considered less than significant
11 (Class III). Shore marine terminal does not transfer any products that would produce
12 toxic gas cloud hazard footprints that would cause health and safety risks to the public,
13 thus impacts associated with toxic gases are less than significant (Class III).

14
15 The wharf is equipped with appropriate fire extinguishing equipment that can be
16 activated in the event of a fire. In addition, the first line of defense for a fire onboard a
17 tanker or tank barge is the onboard fire protection systems. Based on review of wharf
18 facilities, it does not appear that the wharf fire detection/suppression system meets the
19 full requirements of CSLC’s proposed Marine Oil Terminal Engineering and Maintenance
20 Standards (MOTEMS), and results in a significant adverse impact (Class II).

21
22 Tankers are required by 46 CFR 34 to have sophisticated firefighting systems which
23 include fire pumps, piping, hydrants, and foam systems. Tank barges are required only
24 to have only portable fire extinguishers, while some are equipped with built-in systems.
25 The tank vessel crews are trained in the use of the firefighting equipment. The onboard
26 firefighting equipment is sufficient to extinguish most fires. However, in the event of a
27 fire, the wharf should be able to quickly release a vessel to prevent spread of fire from
28 vessel to wharf or vice versa. As no quick release devices presently exist at the Shore
29 terminal, this is a significant impact (Class II).

30
31 The USCG Marine Fire Fighting Contingency Plan (USCG 2000) assesses risk of
32 marine vessels including damage potential, strategic planning, management of
33 response efforts, and response resources available through the USCG. However, no
34 discussion or procedure related to USCG requirements for handling tank vessel fires or
35 emergency response was found in Shore’s Operations Manual or Oil Spill Response
36 Plan. This has been identified as a deficiency in the manual and in planning for
37 emergency response and is considered a significant adverse impact (Class II). A fire
38 could cause an upset condition that could result in an oil spill, and result in significant
39 adverse impacts (Class I or II) to the environment.

40 41 Site Security

42
43 The facility is surrounded by a chain link fence and is manned 24 hours per day.
44 Electronic gates are provided at the entrance to the terminal. Routine security
45 surveillance of the facility is conducted during normal operations. Overhead and pole
46 mounted lighting provides coverage for the majority of the facility. Shore has developed
47 a program which has been reviewed and approved by CSLC. Impacts associated with
48 site security are considered less than significant (Class III).

Potential for Tanker Accidents Within the Bay

Tanker and barge spills from vessel traffic accidents are due to: (1) collisions which are impacts between two or more moving vessels, (2) rammings which are moving vessels running into stationary objects, and (3) groundings for both tankers and barges. The overall probability of a release equates to approximately one spill every 1,600 years based on the current number of vessel calls and one spill every 800 years based on the maximum possible number of vessel calls. These frequencies are both classified as “unlikely.”

Tank vessels calling at the Shore terminal must pass under the Benicia-Martinez Bridge complex that requires tankers to navigate through two existing bridges, and a second road bridge is presently being constructed. A comprehensive marine operations impact study (Reese-Chambers 1991) was conducted to analyze the potential impact of the existing and expanded bridge complex on vessel traffic that must pass through the complex. The San Francisco Bar Pilots were consulted during the conduct of the analysis. The analysis concluded that the existing bridge complex does not present a safety hazard, and that the addition of another bridge would not decrease the safety of passing through the bridge complex.

Response to a spill from a tanker is the responsibility of the vessel owner/operator. As a result of the Oil Pollution Act (OPA 90), each vessel is required to have an up-to-date oil spill response plan that identifies the worst-case spill (defined as the entire contents of the vessel) and the assets that will be used to respond to the spill. Implementation and enforcement for tank vessels are the responsibility of the USCG. Each vessel’s relative risk is determined through a detailed inspection and vessel history and rated. (Agency responsibilities for implementation and enforcement addressing terminals, vessels, and pollution control are detailed in Section 3.1.) All tanker companies operating within California waters must demonstrate by signed contract to the USCG and California Department of Fish and Game (CDFG) that they have, either themselves or under contract, the necessary response assets to respond to a worst case release as defined under federal and state regulations. Shore does not own or operate any tank vessels, and thus is not responsible for spills from tankers once they have left the terminal. However, Shore would respond to spills from tankers at their terminal.

Based on the anticipated spills and associated impacts to resources, the impact of spills would be adverse and significant, and range from spills that could be contained during first response efforts with rapid clean-up (Class II) to complex spills that would result in a significant adverse (Class I) impacts with residual effects after mitigation.

Potential for Tanker Accidents Outside the Bay

The vessel owner/operator is responsible for cleaning up spills and must be able to identify what assets will be used. The Area Contingency Plan identifies sensitive resources along the outer coast and measures to be used in protecting these resources.

1 Response to spills outside the Bay would be somewhat different from that inside the
2 Bay due to sea conditions. Booms become less effective as wave heights increase,
3 losing much of their effectiveness once waves exceed 6 feet. When wave energy is
4 such that it is impossible to deploy response equipment, the wave energy causes the oil
5 to be dispersed much more rapidly. Also, it may not be necessary to try to contain and
6 clean-up a spill if it does not threaten the shoreline or a sensitive area. In this case, the
7 spiller would monitor the trajectory of the spill in accordance with methodologies
8 presented in the Area Contingency Plan. If the spill could affect the shoreline or
9 sensitive area, then the response efforts would consist of containing and cleaning as
10 much oil as necessary, and protecting sensitive areas.

11
12 Oil spill response contractors berth their large response vessels inside the Bay. As
13 such, it takes the vessels a minimum of 2 hours to get underway and exit the Bay, and
14 24 hours to reach the Fort Bragg area. While the contractor response capability meets
15 the minimum requirements of OPA 90 and Office of Oil Spill and Prevention Response
16 (OSPR), a large spill could result in significant, adverse impacts (Class I) to sensitive
17 resources, as described in other resources sections of this document.

18 19 20 **ES.5.1.2 Alternatives**

21 22 No Project Alternative

23
24 Decommissioning of the wharf would be subject to a separate CEQA review, however,
25 there could be a small risk of a spill during the pipeline purging and removal process
26 that could be contained and thus considered a significant impact (Class II). Following
27 decommissioning, with no wharf there would be no potential for risk or safety impacts.

28
29 If the crude oil were imported through other marine terminals, the overall probability of
30 an oil spill in the area of the other terminals would be expected to be approximately the
31 same, however, different sensitive resources could be impacted in the event of a
32 release. Also, depending on the location of the marine terminals, the length of the
33 pipelines connecting the marine terminal to the refineries could be longer, thus
34 increasing risk of a pipeline release.

35
36 Besides importing crude oils, the refineries must ship out their refined products. Without
37 the Shore terminal, the refineries would be required to ship through other marine
38 terminals or use pipelines. As with the import of crude, the use of tank vessels at other
39 marine terminals would shift the risk to those terminals.

40
41 This No Project Alternative would eliminate safety/risk issues as described for the
42 Proposed Project; however, it would shift the impacts associated with spills to other
43 facilities. While those facilities already have operating wharves, spill impacts would be
44 adverse and significant and range from spills that can be contained during first response
45 efforts with rapid clean-up (Class II) to those complex spills that result in a significant
46 impact (Class I) with residual effects after mitigation.

1 It is possible that shifting the import of crude oil and export of products to other marine
2 terminals could tax the handling capacity of the terminals, causing congestion at the
3 terminals and/or increasing pumping rates, which in turn could increase the risk of
4 significant adverse impacts (Class I or II). Though the Shore terminal and tank vessels
5 at its wharf do not generate hazard footprints that present a risk to the public, this may
6 not be true of the other marine terminals that could be used. As such, significant
7 adverse impacts (Class I or II) could occur. And lastly, a new lease for the Shore
8 terminal will include many mitigation measures as conditions of the lease, which would
9 increase the safety of the facility. Other marine terminals that could be used may not
10 have these same mitigation measures.

11 12 Increased Use of Existing Pipelines for Continued Operation of Upland Facility Alternative

13
14 Under this alternative, the potential risks of using other marine terminals would be as
15 discussed above. The risk from the upland portion of the Shores facility would be
16 essentially the same as present conditions. The potential for spills from pipelines is
17 generally thought to be a function of the length of the pipeline, if operating pressures do
18 not change. Under this alternative, the pipelines and their operation would essentially
19 remain as present. Likewise, the potential for accidents involving the storage tanks is
20 generally thought to be the same regardless of the throughput.

21 22 Modifications to Existing Pipelines for Continued Operation of Upland Facility Alternative

23
24 As with the previous alternative, the potential risks of using other marine terminals
25 would be as discussed above. This alternative would involve the activation of a
26 currently inactive pipeline. As stated above, the potential for pipeline releases is
27 generally thought to be a function of pipeline length and thus, the activation of this line
28 would increase the probability of a release from a pipeline.

29
30 Spills from pipeline transportation of crude oil or petroleum products usually present less
31 of an impact on the environment than spills from tanker transportation. The probability
32 of a spill is not necessarily less; however, the maximum amount of oil that can be
33 released from a pipeline is generally less than that which can be released from a tanker.
34 In addition, oil spilled on land generally causes less environmental impact than oil
35 spilled on water.

36
37 Failure rates for pipelines are generally described in terms of spills per unit length per
38 year. Pipeline characteristics that can affect potential failure rates include age, size,
39 design, depth of burial, corrosion protection, wall thickness, and operating temperature.
40 Because the PG&E line has not been used for over 15 years, it would most likely have
41 to be surveyed with an instrumentation "smart" pig to evaluate its condition. Any
42 sections that may have been damaged due to corrosion or some other means would
43 have to be repaired or replaced.

44
45 Pipeline leaks or spills can occur as a result of seismic activity is described in
46 Geological Resources and Structural Integrity. The potential consequences of pipeline
47 leaks on other sensitive resources are described in other resource sections of this EIR.

ES.5.2 Water Quality

ES.5.2.1 Proposed Project

Sediment Disturbance from Vessel Maneuvers

A turbid plume of water is often evident in turbulent propeller wash or bow thrusters of large deep-draft vessels in relatively shallow harbors and bays. Tug boats assisting vessels or barges also may disturb sediments by propeller wash or bow thrusters. This resuspended sediment material would disperse rapidly with the strong tidal currents in the area, and any depression in dissolved oxygen would be rapidly mitigated by tidal mixing with Bay waters of high dissolved oxygen concentration.

Bottom scour conditions are likely to occur when deep-draft vessels are using their propulsion systems while berthing at the Shore Terminals pier. Approximately 16 vessels (tankers and barges), and their associated tugboats call monthly at the Shore terminal. Each berthing action takes about 1 hour to secure the vessel or barge to the dock. Therefore, these conditions would occur less than 5 percent of the time on average $[(1 \text{ hour for vessel arriving} + 1 \text{ hour for vessel departing}) \times (16 \text{ vessels per month}) / (732 \text{ hours per month}) = 4.4 \text{ percent of the time}]$. With a maximum of 325 vessels annually that could call at the terminal over the lease period, this could increase to 7.4 percent of the time. The sediments at the Shore terminal are mostly sand, which stays in suspension for a shorter time than silts and clays. Because these events occur for an hour or less, impacts would be limited to the immediate vicinity of Shore Terminals, and would be adverse, but less than significant (Class III).

Segregated Ballast Water

Vessels may discharge ballast water from segregated ballast tanks (tanks segregated from oily cargo) into the Bay. Vessels that visit the Shore terminal follow an established pattern from as far south as San Pedro, California to as far north as the Cook Inlet of the Gulf of Alaska. The levels of certain pollutants in some of those ports may exceed ambient levels in Suisun Bay. In cases where the pollutant in the ballast water exceeds the concentration in the San Francisco estuary, the volume of water discharged (2.5 million gallons) is small compared to the volume of water in San Francisco Bay, where concentrations reach background levels rapidly. Therefore, discharge of segregated ballast water is not expected to result in long-term elevations of contaminant levels that exceed criteria in the California Toxics Rule. However, discharge of segregated ballast water could result in a significant adverse impact to water quality if viruses, toxic algae, or other harmful microorganisms are released. Therefore, discharge of segregated ballast water is determined to have a potentially significant impact to water quality (Class I). Compliance with the California Marine Invasive Species Control Act and the California Ballast Water Management for Control of Nonindigenous Species Act, with completion of ballast water reporting will help to reduce the impact of ballast water discharges, but will not reduce potential impacts to less than significant. The introduction of exotic species from discharged ballast water is a greater concern. Introduction of exotic species in ballast water is discussed in S.5.3.1.

Cooling Water and Other Vessel Wastes

Besides the discharge of segregated ballast water discussed above, the only other discharge from vessels visiting the Shore terminal is cooling water flow from the ships' operating systems. Cooling water flow from ship systems includes flow from the main engines and auxiliary equipment operating during the time the ships are berthed at the wharf. The volume of these cooling water flows is relatively small compared to the tidal flow past the wharf. Therefore, the increase in water temperature of the Bay would be negligible and would not exceed limitations set forth in the California Thermal Plan. The impact of cooling water discharges on water quality would be less than significant (Class III).

Any other liquid wastes that may need to be removed from vessels visiting the Shore terminal are discharged to trucks provided by a contractor and taken to an appropriate waste handling facility. Therefore, unless there were a spill during transfer, none of these other wastes, which might include sanitary wastewater, bilge water, and non-segregated ballast water, would have any impact on water quality in the project area. A spill, however, would degrade water quality and many spills would constitute long term degradation of water quality, resulting in a significant adverse impact (Class II).

Trash

Trash associated with operations at the Shore marine terminal is disposed of by a contracted garbage disposal firm. Shore does not accept the offloading of trash from vessels. Therefore, trash is not discharged to Bay waters and impacts of trash on water quality would be less than significant (Class III).

Cathodic Protection

Tankers and barges calling at the Shore terminal are made of steel and need cathodic protection. Tankers often use an impressed current system for cathodic protection. Barges typically use sacrificial zinc anodes for cathodic protection. The slow leaching of zinc anodes may increase metal concentrations in the waters at Shore terminal, but due to the slow rate of exchange of the anodes to seawater, the concentration is negligible in comparison to ambient zinc in the marine environment. The impact of cathodic protection on water quality is less than significant (Class III).

Anti-Fouling Paints

Marine anti-fouling paints are used to reduce nuisance algal and marine growth on ships. Anti-fouling paints are biocides that contain copper, sodium, zinc, and tributyltin (TBT) as the active ingredients. All of these are meant to be toxic to marine life that would settle or attach to the hulls of ships. Much concern has been raised about TBT effects on non-target marine species. New types of bottom paints that do not contain metal based biocides are being developed and tested. At a November 1997 session of the IMO Assembly in London, a resolution was approved that bans the application of tin biocides as anti-fouling agents on ships after January 1, 2003, and prohibits the

1 presence of tin biocides after January 1, 2008. Because of the high toxicity of
2 organotins to marine organisms, the use of these substances on vessels associated
3 with Shore Terminals is considered to be a significant adverse impact to water quality
4 that cannot be mitigated to less than significant (Class I). Impacts of anti-fouling paints
5 on water quality may be partially mitigated if Shore Terminals requires that vessel
6 operators document that vessels using the marine terminal have had no new
7 applications of TBT or other metal-based anti-fouling paints. However, until all TBT is
8 phased out by 2008, vessels with old applications of TBT on their hulls will visit the
9 Shore marine terminal. Although it is reasonable for Shore Terminals to require vessels
10 to document no new TBT applications (per IMO mandate), Shore Terminals cannot
11 feasibly require vessels to remove TBT from their hulls until the IMO mandate comes
12 into effect in 2008. Therefore, until all TBT is gone from vessels using the Shore marine
13 terminal, impacts of organotins will remain significant.

14 15 Tanker Maintenance

16
17 Minor repairs and routine maintenance of vessels may occur at the Shore terminal.
18 Vessels may take on lubricating oils from trucks which have a potential to spill into the
19 water. Work in transfer areas are protected by berms and drains to sumps from which
20 are pumped onshore. Routine maintenance would have the potential to degrade water
21 quality due to chronic spills during transfers of lubricating oils, resulting in a significant
22 adverse impact (Class II).

23 24 Storm Run-Off from the Wharf

25
26 Hydrocarbons and other contaminants that accumulate on surfaces of the Shore
27 terminal pier will run-off to the ocean during storms. A 6-inch high curb surrounds the
28 wharf deck and all materials on the surface drain into a 25-barrel capacity sump. The
29 sump's float valve automatically activates at 300 gallons, and the sump has 150 percent
30 additional capacity. In a worst case, the sump would overflow into the concrete curb
31 containment system surrounding the wharf. Therefore, pollutants that accumulate on
32 the wharf deck should not enter the Bay and degrade water quality. However, there is
33 the potential for contaminants to accumulate on the surface of other parts of the pier
34 from routine vehicle use, maintenance activities and other operations. Shore's Storm
35 Water Pollution Prevention Plan (SWPPP) does not specifically address run-off from the
36 pier. Concentrations of a number of contaminants in sediments at the Shore terminal
37 are at levels that exceed the ER-L indicating that some adverse biological effects may
38 occur to species sensitive those contaminants. Because contaminant levels in the
39 vicinity of the terminal exceed criteria, run-off from the pier may be contributing
40 pollutants to the Bay and concentrations may affect some benthic species adversely
41 within the local area. This is considered a significant adverse impact to water quality
42 that may be mitigated if Shore prepares a SWPPP for the marine terminal and specifies
43 additional Best Management Practices (BMPs) in the Plan. Aggressive implementation
44 of BMPs to reduce the input of chemicals to the Bay from stormwater run-off would
45 reduce Shore Terminals' input of these chemicals to adverse but less than significant
46 (Class II).

Maintenance Dredging

Shore Terminals dredges sediment from the north side of the wharf in order to maintain an adequate depth for tankers that visit the terminal. Historically, approximately 6,000 cubic yards of sediment have been dredged to maintain adequate depth at the berth. In the past, the dredged sediments were disposed of at the Carquinez Strait Disposal Site (SF-9).

Sediments at the Shore marine terminal are composed primarily of sand sized particles. Toxicity tests have indicated that sediments from the terminal have relatively low toxicity to marine organisms. Because the concentrations of some contaminants at the terminal exceed the concentration in reference sediments, disposal of dredged sediments at the Carquinez Disposal Site or another in-bay disposal site has some potential to increase contaminant levels at the disposal site. However, disposal of approximately 6,000 cubic yards of sediment per year represents a less than significant amount of the 2 to 3 million cubic yards per year that may be disposed of at the Carquinez Strait site.

Dredging and disposal of sediments from the Shore terminal may have an adverse effect on water clarity. However, because the sediments consist primarily of sand-sized particles, resuspended sediments would settle rapidly within a short distance and elevation of turbidity would be short-lived. Resuspension of dredged sediments is not expected to expose marine organisms to toxic concentrations of contaminants, because of the low toxicity of Shore terminal sediments. Because the effects of dredging and dredged material disposal on water quality are transitory and because only a small amount of infrequent maintenance dredging occurs at Shore terminal, the impacts of maintenance dredging at Shore terminal on water quality are determined to be adverse but less than significant (Class III).

Oil and Product Spills

An oil spill has the potential for significant adverse impacts to water quality. The total sea surface area affected by a spill depends on the volume of oil released and the prevailing meteorological conditions, particularly winds. A significant impact to marine water quality (Class I or II impact) would result from an accidental spill of crude oil or oil product in either San Francisco Bay (at the Shore marine terminal or along tanker routes) or outer coast waters.

Most small leaks or spills from Shore terminal operations could result in significant but mitigable adverse impacts (Class II) because they could be easily contained. Shore marine terminal operations have the greatest potential for small spills (less than 50 bbl). However, the severity of impacts from larger leaks or spills at the marine terminal would depend on (1) spill size, (2) oil composition, (3) spill characteristics (instantaneous vs. prolonged discharge), (4) the effect of environmental conditions on spill properties due to weathering, and (5) the effectiveness of clean-up operations. The initial impacts of an oil spill would be to the quality of surface waters and the water column, followed by impacts to sedimentary and shoreline environments. Crude oil very widely in appearance and viscosity. Crude oil typically is a mixture of distinct compounds, mostly

hydrocarbons containing hydrogen and carbon in various proportions. Refiners control the mix of hydrocarbon types in particular products to give petroleum products their properties. The fate of spilled oil in the marine environment is determined by a variety of complex and interrelated physical, chemical, and biological transformations with the potential to affect water quality. Large spills at the Shore marine terminal (greater than 50 bbls) would result in significant adverse (Class I) impacts on water quality. Most tanker spills/accidents and larger spills that cannot be quickly contained either in the Bay or along the outer coast would result in significant adverse impacts (Class I).

ES.5.2.2 Alternatives

No Project Alternative

The No Project Alternative would eliminate the water quality impacts associated with operations at Shore terminal. The transfer of tanker traffic from the Shore terminal to another marine terminal would eliminate inputs of contaminants from run-off from the Shore terminal pier as well as some of the small leaks and spills that enter the water directly from terminal operations. In addition, the No Project Alternative would eliminate the temporary water quality impacts associated with maintenance dredging to maintain adequate depth at the berth. Because the additional tanker traffic at another marine terminal would not be expected to increase significantly the quantity of contaminants in stormwater run-off from the other terminal or needed maintenance dredging, this alternative would present fewer impacts to water quality than continued terminal operations at the Shore terminal. Water quality impacts associated with vessels would be transferred to another marine terminal and would be similar to the Proposed Project. These impacts include turbidity generated by boat propellers and bow thrusters, introduction of exotic organisms in ballast water discharges, discharge of heated cooling water, introduction of toxins used as anti-fouling agents on tankers, and introduction of metals from cathodic protection on vessels. The potential impacts of spills on water quality would remain similar to the Proposed Project, but would be transferred to other marine terminals.

If the No Project Alternative involved removal of the Shore terminal pier, temporary impacts to water quality would occur by the disturbance of sediments during pier removal. These impacts would be short lived and are considered adverse but less than significant (Class III).

Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative

Except in the case of an accident, no impacts to water quality would occur from the increased use of pipelines. In the event of a pipeline break and spill or substantial leak, there is the potential that water quality could be compromised if the oil reached a creek, stream, lake, or other water body. This could result in a significant, adverse impact (Class I or II) depending on whether the spill could be contained easily and whether a water body is affected.

1 Although a significant impact to water quality can occur from a pipeline leak or spill, it is
2 less likely to have significant water quality impacts than a spill associated with tanker
3 operations. In many cases, pipeline leaks or spills may be contained and cleaned up
4 before Bay waters would be contaminated.

5 6 Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative 7

8 The impacts of modifying an existing pipeline to allow continued operation of the upland
9 facility would be similar to those of using existing pipelines. In the event of a pipeline
10 break and spill or substantial leak, there is the potential that water quality could be
11 compromised if the oil reached a creek, stream, lake, or other water body. This could
12 result in a significant adverse impact (Class I or II) depending on whether the spill could
13 be contained easily and whether a water body is affected. Because the PG&E fuel oil
14 line that would be used for this alternative is currently inactive, implementation of this
15 alternative would place risk of a leak or spill in a pipeline where no such risk exists
16 currently. However, a spill or leak from a pipeline is less likely than from tanker
17 operations. Pipeline leaks and spills also are usually more readily contained and
18 cleaned up than spills from tankers. Therefore, this alternative would present lower risk
19 of significant adverse impacts to water quality than the Proposed Project.
20
21

22 **ES.5.3 Biological Resources**

23 24 **ES.5.3.1 Proposed Project**

25 26 Disturbance on Biota from Vessel Traffic and Other Activities Associated with the Shore 27 Marine Terminal 28

29 Vessels visiting the Shore marine terminal may disturb fishes, birds, and marine
30 mammals. Shore Terminals vessel traffic represents a small percentage of vessel traffic
31 in San Francisco Bay. Because of the high level of vessel traffic in the Bay, it was
32 assumed that most species are adapted to the noise and activity. The impacts of
33 disturbance to biological resources from vessel traffic would be adverse but less than
34 significant (Class III). Similarly, the noise from activity on the Shore Terminals' pier
35 could disturb birds in the adjacent marshes. Because the marsh in the vicinity of the
36 Shore marine terminal is known to support breeding by sensitive species, birds in the
37 marsh are most likely habituated to the noise of the terminal activities and the impacts of
38 continued operation of the marine terminal would be adverse but less than significant
39 (Class III).
40

41 Sediment Disturbance from Vessel Maneuvers 42

43 When large ships, such as oil tankers, enter shallow water, the turbulence created by
44 their hull and propellers can disturb the sediment in their path. Organisms living in or on
45 the sediment could be displaced by this turbulence. Benthic invertebrate communities
46 in ship channels have a lower abundance and diversity than communities in less-disturbed
47 portions of the Bay. Because the navigation channels used by the tankers visiting the

1 Shore marine terminal are the channels used by a great number of ships visiting various
2 ports in the Bay, the sparse infauna of these channels would be the same without the
3 impact of the Shore Terminals' tankers. The area in the vicinity of the Shore Terminals'
4 berth where propeller wash and bow thrusters may disturb sediments is very small
5 compared to the amount of benthic habitat in the project area. Impacts of tanker
6 turbulence from vessels visiting the terminal are expected to be adverse but less than
7 significant (Class III).

8 9 Maintenance Dredging at the Shore Terminal Berth

10
11 Periodic maintenance dredging at the Shore marine terminal would displace the benthic
12 organisms living within the dredged sediments. Fishes and benthic organisms within
13 the vicinity of dredging and disposal operations would be subjected to the turbidity
14 created during dredging. Mobile invertebrates and fishes would probably avoid the area
15 but it is possible that some individuals, particularly juveniles, may be entrained by the
16 dredge. Because dredging occurs infrequently (every three years) for a limited time
17 within a small area, the impacts of dredging to most species would be adverse but less
18 than significant (Class III). However, dredging may have a significant impact to
19 Dungeness crab or Chinook salmon if it occurs during the period when large numbers of
20 juveniles are in the area (Class II). Impacts can be mitigated to less than significant by
21 restricting dredging to periods of the year when juveniles of these species are least
22 abundant.

23 24 Introduction of Non-Indigenous Species

25
26 Discharge of segregated ballast water or hull fouling could introduce exotic species to
27 the aquatic ecosystem of the San Francisco estuary. Introduction of exotic species,
28 including the Asian clam *Potamocorbula amurensis* introduced in 1986, has had a
29 devastating effect on the plankton and benthic communities of the San Francisco estuary.
30 Continued introduction of exotic species would have a significant adverse impact on
31 planktonic and benthic communities (Class I). The introduction of non-indigenous
32 species through terminal operations could have significant adverse impacts (Class I) to
33 fishes, water-associated birds, marine mammals and listed species through direct
34 competition, destabilization of the food web, accumulation of toxins in the tissues of the
35 voraciously filter-feeding Asian clam, or the introduction of disease organisms or toxic
36 algae. Compliance with provisions such as the mid-ocean exchange of ballast water in
37 the California Ballast Water Management for Control of Nonindigenous Species Act will
38 help to reduce the impact of ballast water discharges, but will not reduce potential
39 impacts to less than significant (Class I).

40 41 Contaminants Associated with Routine Operations at the Shore Marine Terminal

42
43 Chronic inputs of toxins from the Shore marine terminal could contribute to the pollutant
44 body burden of benthic organisms in the vicinity of the terminal. Fishes and water
45 associated birds would be exposed to pollutants from the terminal through their food
46 chain. The input of contaminants from routine operations associated with the terminal is

1 extremely low compared to other sources of contaminants to the San Francisco estuary.
2 The impacts to biological resources of contaminants associated with operations at the
3 Shore terminal would be adverse but less than significant (Class III).

4 5 Oil Spills at Shore Marine Terminal or from Tankers Visiting the Terminal 6

7 Spills could occur while vessels are moored and transfers are occurring, as well as
8 while vessels are in transit to/from the marine terminal. An oil spill of 1,000 bbls or
9 greater could have significant adverse impacts on biological resources (Class I). A spill
10 between 50 and 1,000 bbls would also probably have significant biological impacts that
11 might not be avoidable (Class I). A spill between 1 and 50 bbls would also have the
12 potential for significant impacts, but could be contained and/or cleaned up before such
13 impacts occurred (Class II).

14
15 Biological resources within San Francisco Bay that could be significantly affected by a
16 spill from Shore terminal tankers or the marine terminal include plankton communities in
17 Suisun Bay, natural rocky shores in Central Bay, intertidal mudflats, Dungeness crab,
18 eelgrass, Pacific herring, striped bass, American shad, white sturgeon, tidal marshes,
19 waterfowl, shorebirds, harbor seals, double-crested cormorants, long-billed curlew,
20 common loon, Barrow's goldeneye, and all listed species. Species that have a large
21 portion of their populations outside of the Bay or in nontidal areas are less vulnerable to
22 a spill than species such as the Delta smelt, with most of their population within the Bay.

23
24 Based on models of oil spills in the vicinity of the Shore terminal, resources most likely
25 to suffer substantial impacts from a spill at the terminal include:

- 26
27 ➤ Plankton communities in Suisun Bay and Carquinez Strait,
- 28 ➤ Delta Smelt,
- 29 ➤ Tidal Marshes in Carquinez Strait and along the south shore of Suisun Bay,
- 30 ➤ California least terns if the spill occurred during the breeding season, and
- 31 ➤ California black rails.

32
33 Based on modeling of oil spills from tankers traveling within the Bay, resources most
34 likely to suffer substantial impacts from a tanker spill include:

- 35
36 ➤ Rocky intertidal habitat,
 - 37 ➤ Juvenile Dungeness crabs,
 - 38 ➤ Wintering waterfowl (if spill occurs in winter),
 - 39 ➤ Double-crested cormorant,
 - 40 ➤ California clapper rails,
 - 41 ➤ Marsh sandwort (if spill occurs near Golden Gate),
 - 42 ➤ California least tern, and
 - 43 ➤ California brown pelican.
- 44

1 The resources at the most immediate risk of oiling from a spill at the Shore terminal are
2 Suisun Shoal, Hastings Slough/Point Edith/Seal Island, Bulls Head Marsh/Pacheco
3 Creek, Martinez Marsh and Benicia Marsh. Depending on conditions at the time of the
4 spill, these areas could be contacted within 3 hours of a spill at the Shore terminal.
5 Shore Terminals may not have adequate boom available to protect all the sensitive
6 areas that may be oiled within 3 hours of a spill at the terminal. Furthermore, the Area
7 Contingency Plan recommends using sonic devices to scare birds away from Suisun
8 Shoal if this area becomes oiled. Shore Terminals' Oil Spill Response Plan does not
9 identify a source of such sonic devices, although it does identify a contractor for
10 rehabilitating oiled wildlife. Therefore, Shore should increase the amount of boom it can
11 deploy during the first 3 hours of a spill and should identify a source of sonic devices
12 that could be deployed at Suisun shoal within 3 hours of a spill. Even with these
13 mitigation measures, the impacts of a spill larger than 50 bbls may have significant
14 adverse impacts (Class I) to biological resources.

17 **ES.5.3.2 Alternatives**

19 No Project Alternative

21 With this alternative, the impacts to biological resources in San Francisco Bay from
22 operations of the Shore marine terminal would be eliminated. These impacts include
23 disturbance of vessel traffic and maintenance dredging, the risk of introduction of exotic
24 species in ballast water, the chronic input to Bay waters of small amounts of
25 contaminants, and the risk of an oil spill at the terminal.

27 The transfer of tanker traffic from the Shore terminal to another marine terminal would
28 eliminate impacts to biological resources from operations at Shore but would transfer
29 some of the impacts to another site. Because the additional tanker traffic at other
30 marine terminals would not be expected to increase needed maintenance dredging at
31 the other terminal or small chronic input of contaminants from storm run-off, this
32 alternative would present slightly fewer operational impacts to biological resources than
33 continued terminal operations at the Shore terminal.

35 Biological impacts associated with vessels would be transferred to other marine
36 terminals and would be similar to the Proposed Project. These impacts include
37 disturbance to biological resources from boat traffic, sediment disturbance generated by
38 boat propellers and bow thrusters, introduction of exotic organisms in ballast water
39 discharges and by hull fouling, and introduction of toxins used as anti-fouling agents on
40 tankers. The potential impacts of spills on biological resources would depend on the
41 location of the other terminal. Biological resources in proximity to a terminal would be at
42 greatest risk from an oil spill at the terminal. The potential impacts of a spill from a
43 tanker would be similar to those of the Proposed Project.

45 If the No Project Alternative involved removal of the Shore terminal pier, temporary
46 impacts to biological resources would occur by the noise and activity associated with pier
47 removal operations and by disturbance of sediments during pier removal. These impacts
48 would be short lived and are considered adverse but less than significant (Class III).

1 Increased Use of Existing Pipelines for Continued Operation of the Upland Facility
2 Alternative

3
4 Except in the case of an accident, no impacts to biological resources would occur from
5 the increased use of existing pipelines. The impacts of an oil spill from a pipeline to
6 biological resources would probably be less than from a spill at the Shore marine
7 terminal. If the spill occurred on land, oil would spread less rapidly than a spill in the
8 Bay, and the spill would be more easily contained. However, impacts to biological
9 resources could still be significant (Class I or II). The worst-case spill from a pipeline
10 would likely be if oil spilled into a river or creek. The oil could contaminate a substantial
11 amount of habitat if it was not rapidly contained and oil potentially could be transported
12 to San Francisco Bay.

13
14 Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

15
16 The impacts of modifying an existing pipeline to allow continued operation of the upland
17 facility would be similar to those of using existing pipelines discussed above. In the
18 event of a pipeline break and spill or substantial leak, there is the potential that
19 significant impacts could occur to biological resources. This could result in a significant,
20 adverse impact (Class I or II) depending on whether the spill could be contained easily.
21 Because the PG&E fuel oil line that would be used for this alternative is currently
22 inactive, implementation of this alternative would place risk of a leak or spill in a pipeline
23 where no such risk exists currently. However, a spill or leak from a pipeline is less likely
24 than from tanker operations. Pipeline leaks and spills also are usually more readily
25 contained and cleaned up than spills from tankers. Therefore, this alternative would
26 have lower risk of significant adverse impacts to biological resources than the Proposed
27 Project.

28
29 There is some potential that activities to make this abandoned pipeline usable could
30 disturb sensitive biological resources in the vicinity of the pipeline (Class I or II).
31 Impacts to sensitive resources could be mitigated by avoiding activities in areas that
32 support sensitive resources to the extent possible.

33
34
35 **ES.5.4 Commercial and Sports Fisheries**

36
37 **ES.5.4.1 Proposed Project**

38
39 Space Use Conflicts with Commercial and Sports Fisheries

40
41 Space use conflicts at the terminal would not change with implementation of a new
42 lease, and would remain less than significant (Class III). However, transiting vessels
43 servicing the Shore terminal would preclude shrimp trawling in the Carquinez Strait,
44 especially if activity at the terminal increases significantly, and preclude Pacific herring
45 fishing in central and south Bays. These space use conflicts in the Bay Estuary occur
46 whenever a vessel is transiting to and from the terminal, resulting in significant, but
47 mitigable impacts (Class II). Along the outer coast impacts from vessels servicing the
48 Shore marine terminal remains less than significant (Class III).

Discharge of Ballast Water

With regards to ballast water and non-indigenous species that attach to ship hulls, the invasive species could out compete Dungeness crabs and other species important to the food web. Due to high concentrations of toxins in invasive species tissues, native fishes that feed on these species could ingest large quantities of toxins. Sport and commercial fisheries in the Bay and on the outer coast would likely be impaired and that impairment would likely cause significant impacts (Class I).

Stormwater Run-off

Stormwater run-off from the Shore trestle could contain contaminants that are accumulating at levels high enough to degrade beneficial uses, including fishing and enjoyment of Estuary resources. Loss of fishing opportunities due to contaminated fish and the need to protect human health are likely to be significant (Class II).

Accident Conditions

Potentially significant impacts (Class I and II) may occur to shrimp, herring fishing, herring spawning, and sport fisheries inside the Bay from an oil spill. Fishing activities would be affected by closure of recreational fishing piers and commercial and recreational fishing marinas. Loss or damage to fisheries and fishing gear would increase the impacts on commercial fishing operations and angling activities. In addition, contamination on fish and habitat would likely result in short and long term impacts. Depending on the spread of a spill, the amount of product spilled, the type of product, and effectiveness of response and clean-up operations, these impacts in the Bay would range from Class I to Class III. Along the outer coast, impacts could result in Class I or Class II impacts from a large spill.

ES.5.4.2 Alternatives

No Project Alternative

This alternative would result in decommissioning and/or deconstruction that would cause temporary disturbance to sport fisheries and habitat. Long-term effects at Shore Terminals would be beneficial (Class IV). Routine operations at other marine terminals would depend on vessel destinations within the Estuary and significant impacts could likely range from Class I to III. Oil spill impacts at the other terminals would be similar to those described for the Proposed Project. Shore has no responsibility for activities at those terminals.

Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative

Routine operations impacts would be transferred to other terminals, but would be the same as for the Proposed Project: less than significant (Class III) from space use

1 conflicts at the terminal, significant (Class II) from transiting vessels in the Bay, and
2 Class I from ballast water discharges and stormwater run-off. Oil spill impacts would be
3 the same as described for the Shore project, significant (Class I and II).

4 5 Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

6
7 Construction impacts to fisheries in waterways would range from Class I to III,
8 depending on routes for new pipeline construction. Routine operations impacts would
9 be transferred to other terminals, but would be the same as described for Shore: less
10 than significant (Class III) from space use conflicts at the terminal, significant (Class II)
11 from transiting vessels in the Bay, and Class I from ballast water discharges and
12 stormwater run-off. Oil spill impacts would be the same as described for the Shore
13 project, significant (Class I and II).

14 15 16 **ES.5.5 Land Use/Recreation**

17 18 **ES.5.5.1 Proposed Project**

19 20 Conflicts with Existing or Future Planned Area-Wide or Local Policy Issues or Plans

21
22 The Shore marine terminal would still be consistent with all applicable city and county
23 land use plans if the proposed 20-year lease extension is approved. Over the 20-year
24 period of the lease, it is highly unlikely that any future land use policies or plans would
25 conflict with the Shore marine terminal. Because applicable planning documents
26 designate the Shore marine terminal site and surrounding areas for industrial and/or
27 open space uses, which currently exist and are compatible, future planning policies and
28 plans would likely continue to designate the area in a similar manner. Based on the
29 above, the Proposed Project would not conflict with any existing or future planned policy
30 issues or plans. Proposed Project impacts with regard to policy inconsistency would be
31 less than significant (Class III).

32 33 Incompatible Adjacent Land Uses as Defined by Planning Documentation

34
35 The Shore marine terminal is not immediately surrounded by any other facilities. The
36 only other facilities within several miles are other heavy industrial uses, which are
37 consistent with all applicable planning documents. There are no sensitive, incompatible
38 land uses (such as hospitals, retirement communities, or schools) located near the
39 Shore marine terminal. The nearest residential area is over 1.5 miles to the southwest,
40 across I-680. Based on review of applicable planning documents and discussion with
41 the city of Martinez, it is highly unlikely that any sensitive, incompatible land uses would
42 be developed near the Shore facility over the 20-year period of the lease (City of
43 Martinez 2003). Therefore, physical land use impacts resulting from the Proposed
44 Project would be less than significant (Class III).

Oil Spills At or Near the Terminal

Impacts from oil releases could degrade the environment and preclude the use of shoreline land and associated recreational activities at the site of the release and the areas affected by the spread of the oil. The degree of impact, however, is influenced by many factors including, but not limited to, spill location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the resource, and response capability. Light product spills generally volatilize relatively rapidly, and little remains within 24 to 48 hours after a spill. Heavy crude oil may disappear over a period of several days, with remaining heavy fractions lasting from several weeks to several months floating at or near the surface in the form of mousse, tarballs, or mats.

No recreational facilities or activities are directly associated with the Shore terminal; however, there are a number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) associated with the study area. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water. For a spill at the Shore wharf, tankering would be stopped and operations at the terminal would be stopped for a period of time depending on the amount of oil present and the amount of clean-up required. The capability to immediately respond and deploy appropriate containment booming would also influence the extent of affected shoreline. Response capability is analyzed in Operational Safety/Risk of Accidents.

Because it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be adverse and significant (Class I or II), because severe spills could have residual impacts that could effect shoreline and/or recreational uses. Any residual impacts remaining after first response efforts would be considered to be significant impacts (Class I).

Oil Spills in the Shipping Lanes in Bay and Outer Coast

Depending on spill size and location, a spill within the Bay and Carquinez Strait shipping lanes could affect tankering and other boating in the vicinity of the spill and its area of spread. In either case, depending on wind and current conditions and size of the spill, shoreline and land and water-recreation uses could be affected. Given the right conditions, virtually all shoreline areas are vulnerable. Shoreline uses affected by a spill include marinas and park and recreation uses, as well as other marine terminals and port and harbor operations. Examples include passenger and cargo vessels, commercial fishing vessels, and others that may have to slow, reroute, or halt operations during clean-up and containment. Nearshore uses may also be affected because they may be temporarily closed during clean-up operations for public safety purposes. Land access to coastal areas may also be affected by clean-up operations.

Compared to the Bay, existing land uses and recreational areas along the outer coast are more diverse, ranging from heavily used areas to areas that are undeveloped and fairly inaccessible, especially along the northern coast.

1 Because it is impossible to predict with any certainty the potential consequences of
2 spills, impacts are considered to be adverse and significant (Class I or II), because
3 severe spills could have residual impacts that could affect shoreline and/or recreational
4 uses. Any residual impacts remaining after first response efforts would be considered to
5 be significant impacts (Class I). Spill response would not be the responsibility of Shore
6 Terminals.

9 **ES.5.5.2 Alternatives**

11 No Project Alternative

13 The risks associated with the transport of oil would be removed from the Shore Facility
14 resulting in an (Class IV) impact, but would be shifted to other nearby facilities. An
15 incremental increase in risk associated with increased vessel activity at other nearby
16 terminals would result. At those facilities there would be the potential for Class I and/or
17 Class II spill impacts, depending on whether residual impacts would remain after first
18 response clean-up efforts.

20 Increased Use of Existing Pipelines for Continued Operation of the Upland Facility 21 Alternative

23 Existing pipelines in the area currently transport processed and crude product from
24 marine unloading facilities to various refineries. It is assumed that the other marine
25 facilities in the area would service the tanker traffic that would have otherwise been
26 served by Shore marine terminal had its lease been renewed. This merely represents a
27 shift in service, and an increase in the amount of petroleum product that moves through
28 these pipelines would continue via other marine facilities in the area. Termination of
29 Shore's lease and the continued use of existing pipelines would not result in any greater
30 land use impacts than what are occurring under existing conditions. Therefore, the land
31 use impacts associated with this alternative would be considered less than significant.

33 Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

35 This alternative entails the reactivation of the unused PG&E fuel oil line. Short-term
36 indirect construction impacts could occur during construction, potentially causing minor
37 disruptions to traffic, local businesses, and localized noise levels, but no direct land use
38 impacts. If required, standard construction mitigation measures would reduce impacts
39 to less than significant levels. Use of the reactivated pipeline for petroleum product
40 transport would include the inherent oil spills risks that do not currently exist along the
41 pipeline route. In the event of a large oil spill from a pipeline rupture, land use and
42 recreational impacts would be potentially significant (Class I and II).

ES.5.6 Air Quality

ES.5.6.1 Proposed Project

Emissions Associated with Continued Operations with No Increased Throughput

Permitted Emissions

The Shore terminal wharf emissions associated with operation of the vapor recovery/thermal oxidizer, loading operations, ballasting, and fugitive sources (pumps, valves, and flanges) are covered under permits to operate pursuant to the requirements of BAAQMD Regulation 2 (BAAQMD 2001). Tanker maneuvering and hoteling, tanker pumping, tugboats, etc., are calculated, as described in the Title V Permit for the Shore Terminals facility, and included as part of the overall permitted emissions of the facility, but are not individually permitted by the BAAQMD. The Shore marine terminal facility maintains a computerized monthly criteria pollutant emission inventory obtained through the use of continuous emission monitors and source sampling. For 2000 and 2001 the measured and calculated criteria pollutant emissions are well below yearly permitted levels specified by the BAAQMD. Thus, continued operation of the marine terminal at recent and current throughput levels would not result in air quality emissions impacts (Class III).

Non-Permitted Emissions

Worker travel contributes to non-permitted operational emissions. Since the facility is already operational, these worker commute emissions are already part of ambient conditions. The average number of people required to operate the Shore Terminals is approximately 2 to 3, with minor fluctuations depending on operations and maintenance needs. No changes to worker commutes or the number of workers are required for the operation of the wharf over the period of the lease. As such impacts associated with non-permitted emissions are less than significant (Class III).

Dredging Operations

Shore conducts dredging on the north side of the wharf approximately every 3 years to maintain an operating depth of minus 38 feet MLLW. The Department of the Army has granted Shore Terminals a permit, which allows for a maximum of 10,000 cubic yards of material to be removed over a 10-year period to maintain safe, navigable depths at the terminal berth. Dredging activities are performed using a clamshell and barge with disposal at the authorized Carquinez (SF-9) disposal site or another site recommended by the San Francisco Bay Dredged Materials Management Office (DMMO). Typically, dredging involves the removal of approximately 6,000 cubic yards of sediment about every 3 years (approximately 3 days of dredging), considered a very small amount when compared to other Bay Area dredging. The dredge and generators onboard both the dredge and tug are normally permitted under the BAAQMD's stationary source regulations. The tug and crew are mobile sources of emissions and are considered un-permitted emissions, but because these mobile sources routinely provide assistance

1 to dredging operators, are considered as part of ambient conditions. Because permitted
2 dredging activities are calculated into the Bay Area's baseline conditions, air quality
3 emissions will not increase from continued dredging activities over the term of the
4 proposed 20-year lease, and are considered less than significant (Class III).

5 6 Emissions Associated with Continued Operations with Increased Future Throughput 7

8 Over the term of the 20-year lease, an increase up to a maximum of 325 annual vessel
9 calls is projected. No modifications to the wharf are proposed, but an increase in
10 upland tankage storage could occur. Construction and operation of increased upland
11 facilities would be subject to local (City of Martinez) CEQA review and BAAQMD
12 permitting.

13
14 The maximum throughput was calculated that would allow the upland facility to operate
15 before exceeding permit conditions and triggering the significance criteria. For non-
16 permitted or indirect emissions, the criteria pollutant emitted in the greatest quantity is
17 NO_x from tanker transit, pumping, and tugboat activities. Based on the quantity of
18 product that could be transferred (total product in/out), the increase in throughput could
19 result in emissions that would exceed significance criteria. Thus, as an indirect
20 consequence of future terminal operations, future upland operational emissions (both
21 indirect and direct) have the potential to exceed daily and yearly significance thresholds
22 and result in a potentially significant impact (Class II).

23 24 Odors 25

26 The primary source of odors from the Shore marine terminal are fugitive precursor
27 organic compound (POC) emissions, that may escape to the atmosphere during loading
28 and unloading operations. These odors are typically removed by the vapor recovery
29 system, which captures and destroys the POC in a thermal oxidizer. An increase in
30 odors would not be expected due to the continued operation of the Shore terminal under
31 the conditions of the proposed 20-year lease. Therefore, no impact is associated with
32 the Proposed Project.

33 34 Hazardous and Toxic Pollutants 35

36 In the effort to have the wharf and its operations permitted through the BAAQMD, Shore
37 satisfied the regulation requirements related to both toxic air contaminants and
38 accidental release of acutely hazardous air emissions. Necessary hazardous and toxic
39 pollutant modeling, and necessary contingency measures have been submitted as part
40 of the permitting process and are on file with the BAAQMD. The BAAQMD issues
41 appropriate permits only with adequate documentation and mitigation. The health risks
42 associated with the proposed 20-year lease of the Shore Terminals marine facility are
43 discussed in Section 3.1, Operational Safety/Risk of Accidents.

ES.5.6.2 Alternatives

No Project Alternative

Without the Shore terminal, other area marine terminals would be required to increase handling of inbound and outbound shipments to meet regional refining demands. Increasing the number of shipments at the other area marine terminals would shift emissions from the Shore facility to other Bay Area terminals where there would be an incremental increase in air emissions at those marine terminals. However, since Shore's terminal is one of the furthest wharves within the Bay Area/Carquinez Strait, air emissions, due to reduced distances traveled by tankers, may be incrementally reduced for the No Project Alternative. This beneficial reduction would be so small as to be less than significant (Class III) when compared with overall regional emissions. Any increase in operations at other area marine terminals would be subject to separate CEQA review.

Decommissioning and/or deconstruction of the wharf, or any other proposed reuse of the wharf, would also require a separate CEQA review. Site demolition would require no earth movement, and would therefore produce only very minor quantities of dust and associated PM₁₀. Any air quality emissions associated with decommissioning and/or deconstruction of the wharf would be expected to be less than significant (Class III).

Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative

Land-based pipelines for moving oil to and from the Shore upland facility to the Shell Martinez, Valero Benicia, and Tesoro Amorco wharves are already in place. Therefore, no construction would be required to use these pipelines. However, these wharves would need to increase shipping operations. Increasing the number of shipments at these wharves would cause an incremental increase in air emissions. On the other hand, since Shore's marine terminal is one of the furthest wharves within the Carquinez Strait and air emissions due to tanker transit distances may be incrementally reduced. Overall Bay Area emissions changes would be less than significant (Class III), since emissions would shift from Shore to one or more of the other facilities.

This alternative also considers the increase in Shore's upland tankage capacity, limited to an additional 2 million bbls over that presently in use/in construction. As long as increased throughput would remain within existing permit limitations, no emission exceedances would occur. Since this may not occur, future operational emissions (both indirect and direct) have the potential to exceed daily and yearly significance thresholds and result in a potentially significant impact (Class II). Increased capacity of the upland facility would be subject to local (City of Martinez) CEQA review.

Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

Shore has connections to the inactive PG&E fuel oil line that could transfer crude oil to and from Shore with possible connections to Shore Selby, ConocoPhillips Rodeo, and the Chevron Richmond Long Wharf. In comparison to the Proposed Project that would

1 have no construction emissions, short term air quality impacts for construction exhaust
2 and fugitive dust emissions would occur. Mitigation measures to reduce fugitive dust
3 emissions have been identified by the BAAQMD and are detailed in the BAAQMD
4 CEQA Guidelines. Additional good practices could be applied to reduce exhaust
5 emissions from construction equipment, including: maintaining construction equipment
6 in tune per manufactures' recommendations; using Catalyzed Diesel Particulate Filters
7 (CDPF), Ultra-Low-Sulfur Diesel (ULSD) fuel with a sulfur content of 15 parts per million
8 (ppm) or less, and diesel engines certified to U.S. Environmental Protection Agency
9 (EPA) and California Air Resources Board (CARB) 1996 or newer; and limiting equipment
10 idle time.

11
12 For operations, in comparison to the Proposed Project, use of other area wharves would
13 pose slight increases in emissions that would shift from Shore to one or more marine
14 terminal facilities. Overall Bay Area emissions changes would be less than significant
15 (Class III).

16 17 18 **ES.5.7 Noise**

19 20 **ES.5.7.1 Proposed Project**

21 22 Consistency with Local Standards, Noise Elements, and Ordinances

23
24 Noise measurements were taken offsite near the Shore Terminals facility. The highest
25 measurement of 58 dBA L_{eq} would indicate, using conservative assumptions, that noise
26 standards would not be violated for continued operations, and the project is consistent
27 with existing local noise ordinances. Therefore, no impact due to the Proposed Project
28 is expected.

29 30 Operations Over 20-Year Lease Period

31
32 Shore proposes to continue operation of the marine terminal with no expansion or
33 change in use of the existing facility for the duration of the proposed 20-year lease.
34 Thus, the baseline conditions are defined as existing Shore operations. Ambient noise
35 levels would not be increased by the Proposed Project. Therefore, impacts associated
36 with long-term operations are considered less than significant (Class III).

37 38 39 **ES.5.7.2 Alternatives**

40 41 No Project Alternative

42
43 Without the Shore terminal, other area marine terminals would be required to increase
44 inbound and outbound shipments to meet regional refining demands. Increasing the
45 number of shipments at the Equilon Enterprises LLC Martinez, Valero Benicia, and
46 Tesoro Amorcó wharves, which are located in industrial areas, would likely result in a
47 small, but less than significant (Class III) incremental increase in noise.

Decommissioning of the wharf would be subject to a separate CEQA review. Construction activities associated with this activity would be expected to result in a temporary increase in noise levels; however, these would not be expected to exceed the local regulations and are considered less than significant (Class III). Due to the distance to sensitive receptors, no receptors would be affected by deconstruction activities and any impacts would be less than significant (Class III).

Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative

Land-based pipeline connections for moving oil to and from the Shore upland facility to the Shell Martinez, Valero Benicia, and Tesoro Amorco wharves are in place. Therefore, no construction would be required to utilize these pipelines. However, those wharves would need to increase shipping operations that could cause an incremental, but less than significant (Class III) increase in noise.

An increase in activity could occur at the Shore upland facility, associated with increasing the capacities of currently underutilized pipelines, assuming agreements/connections can be made. An increase in tankage at the upland facility would not contribute to an increase in noise from the facility and impacts are considered to be less than significant (Class III).

Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

Shore may be able to use the PG&E fuel oil line, but would first require examination of pipeline integrity, construction to reconnect the segment in the city of Martinez, and construction to provide connections to the marine terminals at Shore Selby, ConcoPhillips Rodeo, and the Chevron Richmond Long Wharf. In comparison to the Proposed Project, the noise impacts for this alternative would be greater due to both construction and increased shipments at local marine terminals. Noise impacts from construction have the potential to result in a significant impact (Class II).

ES.5.8 Vehicular and Rail Transportation

ES.5.8.1 Proposed Project

Operations Over 20-Year Lease Period

No vehicular activity is associated with the existing wharf operations, hence no impacts would result from continued operations. Over the 20-year life of the lease, no modifications to the wharf are proposed. All parking will remain onsite. Any increase in capacity would be associated with more ships offloading a greater quantity of materials that would be stored in the upland tanks. An increase of up to 2 million gallons in tank storage in the upland area would be the maximum storage during the 20-year period. Any increase in vehicular activity would be associated with the upland operations and not the wharf. No impacts would occur since there would be no increase in traffic from wharf operations.

1 Indirect impacts include those to area trails. Since there would be no increase in traffic
2 associated with the wharf, there would be no impacts to trails associated with the
3 granting of a new lease for continued terminal operations.

4 5 6 **ES.5.8.2 Alternatives**

7 8 No Project Alternative

9
10 Without the Shore terminal, other area marine terminals would be required to increase
11 inbound and outbound shipments to meet regional refining demands. Increasing the
12 number of shipments at the other area marine terminals could cause an incremental
13 increase in traffic local to those terminals, if supplies/materials may be associated with
14 those terminal operations. The small, incremental traffic impact to those marine
15 terminals located in industrial areas would be less than significant (Class III) since trips
16 could be expected to be less than 10 per day.

17
18 An increase in activity could occur at the Shore upland facility, associated with
19 increasing the capacities of currently underutilized pipelines, assuming agreements/
20 connections can be made. An increase in tankage at the upland facility would not
21 contribute to an increase in traffic from the facility and impacts are considered to be less
22 than significant (Class III).

23
24 Decommissioning of the wharf would entail removal of fixtures and the assumed
25 haulage of most of the debris offsite. This would result in a temporary, short-term
26 increase in heavy trucks on Waterfront Road, most likely to I-680, and would be
27 expected to be less than significant (Class III).

28 29 Increased Use of Existing Pipelines for Continued Operation of the Upland Facility 30 Alternative

31
32 For this alternative, it is assumed that the Shore upland facility would continue to
33 function utilizing only land-based pipelines. Connections for moving oil to and from the
34 Shore upland facility to the Shell Martinez, Valero Benicia, and Tesoro Amorco wharves
35 are already in place and no impacts from construction would occur.

36
37 The Shore upland facility would need to increase its existing storage capacity, and thus
38 construct additional tanks and pipelines. This would be subject to separate CEQA
39 review; however, it is expected that all construction would occur onsite, no roadways
40 would be impacted by onsite construction, and materials delivery would use local
41 roadways, but would not be expected to increase/raise the level of service (LOS) on
42 Waterfront Road. Thus, roadway impacts would be expected to be less than significant
43 (Class III).

44
45 Increasing the number of shipments at other wharves may result in an incremental
46 increase in traffic if additional support in terms of supplies/materials or employees would
47 be required. However, this would be very small, and any increase in traffic is
48 considered to be less than significant (Class III).

Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

Use of the PG&E line would require increased examination of pipeline integrity, construction to reconnect the segment in the city of Martinez, and construction to provide connections to the marine terminals at Shore Selby, ConocoPhillips Rodeo, and the Chevron Richmond Long Wharf. Construction in roadways would be required to complete these connections and possibly for replacement of any pipeline segments currently in poor condition. Construction activity would have the potential to cause temporary disruption to traffic flow, possible lane/road closures, and create localized congestion. In comparison to the Proposed Project, the traffic impacts for this alternative would be greater than those for the No Project Alternative or Use of Existing Pipelines for Continued Upland Facility Alternative. Traffic impacts from construction have the potential to result in a significant impact (Class II).

ES.5.9 Visual Resources/Light and Glare

ES.5.9.1 Proposed Project

Visual Effects from Routine Operations Over the 20-Year Lease Period

The terminal has been in place for a long time, and the Proposed Project site is industrial in character. No visual changes from existing operations would occur over the lease period. The berthing of ships at the wharf cannot be seen from Waterfront Road, as views are obstructed and the wharf is distant. Viewers along the local trail and from boats have more direct views of the vessels. The only change from existing conditions over the 20-year period of the lease, could be an increase in vessels berthing at the wharf. Berthing activity could increase of up to 325 vessels per year. Still, due to wharf capacity, only one vessel at a time would continue to be berthed at the wharf. From the water-side, ships berthed at the terminal would appear as a use consistent with the existing operations. Therefore, project operations and vessel transits would not significantly change the visual character or compatibility, and impacts are considered less than significant (Class III).

Night lighting for operations includes lights at the T-head portion of the structure to support loading/unloading activities. These lights point toward the loading/unloading activity, and, as there are no sensitive receptors in the area, there are no impacts from lighting or glare. No significant impacts (Class III) would result from night lighting.

Vessels transiting to the Shore facility in the Bay transit lanes and along the Bay outer coast, would continue to blend in with other accepted tankering operations. No new visual elements would be added and public sensitivity toward views would not change. No significant impacts (Class III) would result.

Visual Effects from Accidental Releases of Oil At or Near the Terminal

Generally, small leaks and spills (50 bbls) would be easily contained with contingency measures employed at the terminal. However, the Shore terminal wharf is located in an area of rapidly moving current. Thus, if a spill is not detected immediately, or if a moderate- or large-size spill at or near the terminal occurred at a rate unable to be quickly contained due to the rapid current, then the spill could spread over a large area. Visually, oiling conditions could range from light oiling, which appears as a surface sheen, to heavy oiling, including floating lumps of tar. Light product spills generally volatilize relatively rapidly, and little remains within 24 to 48 hours after a spill. Heavy crude oil may disappear over a period of several days, with remaining heavy fractions lasting from several weeks to several months floating at or near the surface in the form of mousse, tarballs, or mats. Therefore, the presence of oil on the water would change the color, and in heavier oiling, textural appearance of the water surface. Oil on shoreline surfaces or nearshore marsh areas would cover these surfaces with a brownish-blackish, gooey substance.

The public, becoming aware of a spill, may react negatively to its visual effects. Sensitivity heightens and awareness of the negative change in the environment increases. Without rapid containment by immediate booming and clean-up, the visual effects of even a small spill of 50 bbls can leave residual impacts, and they can be significant (Class I).

The impact of a spill (whether Bulls Head Marsh, Pacheco Creek, or other sensitive areas) could last for a long period of time, depending on the level of physical impact and clean-up ability. In events where light oiling would disperse rapidly, significant impacts (Class II) are expected. In events where medium to heavy oiling occurs over a widespread area, and where first response clean-up efforts are not effective, leaving residual effects of oiling, significant impacts (Class I) would be expected. The physical effort involved in clean-up itself, including the equipment used, would contribute to a negative impression of the environment and the visual impact. It is impossible to predict with any certainty the potential consequences of spills; therefore, visual impacts can be considered to be adverse and significant (Class I or II), depending on the effectiveness of first response containment and clean-up.

Visual Effects from Spill Releases from Tankers in Transit to the Shore Terminal

A moderate to large spill has the potential to spread within a large area, with floating oil and oil contacting sensitive shoreline resources given the right wind and current conditions, and the size and origin of the spill. While spills would be significant, responsibility for spills for those vessels enroute to the Shore terminal wharf, would be the responsibility of the ship's operations/owners and not Shore Terminals LLC, as Shore does not own any vessels. Response capability is analyzed in Operational Safety/Risk of Accidents.

Spills along the outer coast could result in significant impacts (Class I or II), where spills would be visible in the nearshore zone or at the shoreline. Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of views along the outer coast are more varied than within the Bay, but in high use areas, such as coastal park and beach areas, ecological preserve areas, communities and harbors, and other areas where a higher number of viewers would be present, visual sensitivity would be high where clean-up efforts and residual effects were occurring.

It is impossible to predict with any certainty the potential consequences of spills; therefore, visual impacts can be considered to be adverse and significant (Class I or II), depending on the effectiveness of first response containment and clean-up. Response capability for spills from any ships in transit would defer to Clean Bay.

ES.5.9.2 Alternatives

No Project Alternative

Under this alternative, the Shore marine terminal would eventually be decommissioned or converted to another use, which would be subject to separate CEQA review. Heavy equipment, including a barge, crane, and land trucking, would likely be used short-term in the decommissioning effort. Visual impacts would be considered less than significant (Class III) during the decommissioning process. With removal of Shore wharf or trestle from the shoreline, though still within an industrial section of shoreline, a slight beneficial (Class IV) change in visual conditions in the immediate area may occur.

The risks associated with the transport of oil would not be removed, but simply shifted to other nearby facilities. The localized risk of spill (i.e., risks associated with the specific location and access route to the Shore terminal) impacting shoreline land uses and precluding recreational uses would shift. Impacts at the Shore marine terminal would not occur and a slight beneficial impact (Class IV) could occur. However, an incremental increase in risk associated with increases in vessel activity at other nearby terminals would result. At those facilities there would be the potential for Class I and/or Class II spill impacts, depending on whether residual impacts would remain after first response cleanup efforts.

Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative

This alternative would increase the use of existing pipelines in the area for transport of petroleum products, and that other marine facilities in the area would service tanker traffic. This represents a shift in service, resulting in an increased use of these pipelines to higher capacities than at current. Visual impacts associated with this alternative would be less than significant (Class III).

1 The Shore upland facility may require expansion as a result of increased storage
2 activities associated with this alternative. Expansion on Shore's existing property would
3 be subject to separate CEQA review, and visual impacts would be expected to be less
4 than significant (Class III).

5 6 Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

7

8 This alternative entails the reactivation of the unused PG&E fuel oil line. Short-term
9 construction impacts could cause visual disturbance along the construction corridor, but
10 would be temporary and less than significant. Pipeline rupture, corrosion, leaks, and
11 maintenance would have a potential to result in visual impacts. These inherent oil spill
12 risks do not currently exist along the pipeline route. In the event of an oil spill from a
13 pipeline release, visual impacts to the landscape would be potentially significant (Class I
14 and II).

15 16 17 **ES.5.10 Cultural Resources**

18 19 **ES.5.10.1 Proposed Project**

20 21 Potentially Eligible Historic Register Resources

22

23 No cultural resources potentially eligible for the California Register of Historical
24 Resources (CRHR) have been identified in the vicinity of the Shore marine terminal.
25 The wharf itself is less than 45 years old and is not determined as a potentially eligible
26 structure. No impacts would be associated with continued operations.

27 28 Dredging at the Shore Terminal

29

30 There are no shipwrecks in the immediate area of the wharf; thus, maintenance
31 dredging would have no cultural resources impact.

32 33 34 **ES.5.10.2 Alternatives**

35 36 No Project Alternative

37

38 Without the Shore terminal, other area marine terminals would be required to increase
39 inbound and outbound shipments to meet regional refining demands. Increasing the
40 number of vessel calls at the other area marine terminals would not result in impacts to
41 cultural resources as those wharves are already in place. Decommissioning and/or
42 deconstruction of the Shore facility would be subject to separate CEQA review. Since
43 there are no resources nearby, no cultural resources impacts would occur with site
44 demolition.

Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative

No construction would be required for Shore to use existing pipelines for moving oil to and from the Shore upland facility to the existing Shell Martinez, Valero Benicia, and Tesoro Amorco wharves. No impacts would occur. As above, increasing vessel calls at these terminals would also not result in impacts to cultural resources since these wharves are already operational.

This alternative also considers an increase in the capacity of the Shore's upland tankage facilities. Based on the 1994 EIR prepared for upland facility modifications (Thomas Reid Associates 1994), if the site has been previously disturbed it would be unlikely for any resources to be present. Increased capacity of the upland facility would be subject to local (City of Martinez) CEQA review. If resources were found, impacts would be considered to be significant (Class II) and mitigation would be required.

Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

To use the PG&E line would require examination of pipeline integrity, construction to reconnect the segment in the city of Martinez, and construction to provide connections to the marine terminals at Shore Selby, ConocoPhillips Rodeo, and the Chevron Richmond Long Wharf. Construction associated with the reconnection should not encounter cultural resources since the line had been in place and any resources that may have been there should have been mitigated. Any areas of new construction may be potential sources of resources, and thus, construction may have the potential to result in a significant impact (Class II).

ES.5.11 Geological Resources/Structural Integrity Review

ES.5.11.1 Proposed Project

Ground Rupture

The wharf and trestle lie outside of the Alquist-Priolo earthquake fault zone, and surface rupture from known active faults is not anticipated. Impacts would be less than significant (Class III).

Groundshaking

The wharf and trestle are located within a seismically active area with several faults capable of inducing strong ground shaking. Such shaking would result in associated shaking of the structures, including interaction between the soil and structural foundations.

1 The bathymetry in the wharf and trestle vicinity is relatively flat, and lateral spreading of
2 soils at or near the ground surface caused by ground shaking is unlikely. Berth
3 dredging, natural scour or soil accumulation in steep slopes near the piles are
4 considerations in soil interaction. Lateral spreading from any moderate earthquake may
5 create a significant impact (Class II).

6 7 Liquefaction and Seismically Induced Settlement

8
9 Liquefaction is a phenomenon whereby insufficiently dense saturated granular soil
10 temporarily loses strength and bearing capacity during seismic shaking. Most of the
11 sand from this site appears to be older Pleistocene age sand that is medium dense to
12 dense based on limited data from the site. If the sand liquefies, it could result in volume
13 changes that in turn could result in soil settlement and downdrag on the piles. Because
14 the site does not have an industry standard liquefaction evaluation, the potential for
15 seismically induced settlement would be considered adverse and significant (Class II).

16 17 Tsunami

18
19 The maximum expected wave height near the Shore marine terminal for the 100-year
20 tsunami event would be about 3.3 feet and up to 4.0 feet for the 500-year event.
21 Potential damage to the wharf and/or vessel from these events could occur and impacts
22 are considered significant adverse impacts (Class II). As tsunamis can be generated
23 either by a distant or near source, the Shore operators may or may not have adequate
24 warning time for which to allow the vessel to depart from the wharf to avoid damage.

25 26 Structural Conditions of the Wharf

27
28 The CSLC has proposed MOTEMS that requires a marine oil terminal facility satisfy
29 seismic performance criteria. The seismic performance criteria depends on the
30 predicted maximum earthquake motions at the site, and the potential size of an oil spill.
31 The impact analysis evaluated existing analyses completed for the Shore marine
32 terminal and considered the proposed MOTEMS requirements.

33 34 Loading Platform Structural Adequacy

35
36 A seismic evaluation report (Gerwick 2001) formed the basis for the anticipated
37 performance of the loading platform, breasting dolphins, mooring dolphins, and pipeline
38 trestle. The anticipated seismic displacement of the loading platform has been
39 calculated, and all loading platform structural elements are currently satisfactory for
40 proposed MOTEMS performance level earthquakes and impacts are expected to be
41 less than significant (Class III).

42 43 Dolphins Structural Adequacy

44
45 The mooring dolphins and primary breasting dolphins were found to be adequate for
46 performance level earthquakes (Gerwick 2001) and impacts are expected to be less
47 than significant (Class III). However, greater seismic displacements are predicted for

1 the secondary breasting dolphins due to the fewer number of batter piles and greater
2 mass. The 2001 Gerwick report recommended evaluation due to the piles' deteriorated
3 condition and anticipated seismic displacements. Since the Gerwick report, Shore has
4 replaced the fenders and made some concrete repairs. With preventative maintenance
5 on the breasting dolphins, potential for impacts from seismic damage is less than
6 significant (Class III).

7 8 Catwalks Structural Adequacy

9
10 The seismic performance of the catwalks has not been evaluated. However, their
11 performance is of secondary importance, because a catwalk failure will not result in an
12 oil spill and can easily be repaired. Impacts are expected to be less than significant
13 (Class III).

14 15 Trestle Structural Adequacy – Batter Pile to Bent Cap Connections

16
17 The majority of the trestle bents are two-dimensional structures designed to resist only
18 vertical and transverse forces. During an earthquake, high forces will be developed in
19 the two 1-1/2 inch bolts at the batter pile to bent cap connections. It appears probable
20 that these connections do not have the capacity to transfer the calculated forces and
21 significant adverse impacts (Class II) could result.

22 23 Trestle Structural Adequacy – Anchor Bents

24
25 The second type of trestle bents are anchor bents, of which there are twelve. The
26 anchor bent batter pile to bent cap bolts are not capable of transmitting the predicted
27 transverse seismic loads and could fail during an earthquake resulting in a significant
28 adverse impact (Class II). The bolted connection in the anchor pile bents could result in
29 loss of support for the petroleum lines and potentially initiate an oil spill.

30 31 Berthing/Mooring Load Capacity

32
33 GKO Messinger & Associates (1994) indicate that there are significant berthing and
34 mooring limitations for large vessels in order to limit the load to the dolphins. These
35 limitations restrict the load on the dolphins to the pile allowable capacities. Based on
36 these limitations, berthing and mooring forces are less onerous than the seismic loading
37 conditions. No mooring analysis has been conducted to comply with proposed
38 MOTEMS, as such potential for impacts may not have been identified to date. As a
39 mooring analysis is required, with any recommendations to be conducted, a significant
40 adverse impact (Class II) has been identified.

41 42 Pipelines

43
44 Gerwick (2001) found that if maximum displacement of 30-inch pipeline and movement
45 of the loading platform and the trestle were to occur in the opposite direction at the
46 same time, then the pipeline would be overstressed. In addition, about halfway
47 between the loading wharf and the land, the pipelines go through an expansion loop.

1 The behavior of the pipeline/support interface has not been evaluated and the seismic
2 stresses are unknown. A potential adverse impact (Class II) results, as pipelines could
3 be stressed to the point where damage and leaks could result.

4 5 6 **ES.5.11.2 Alternatives**

7 8 No Project Alternative

9
10 The potential concerns as to structural conditions of the wharf as described for the
11 Proposed Project, would not be of concern if there were no new lease.
12 Decommissioning of the wharf would be subject to a separate CEQA review.
13 Deconstruction activities would not result in any geotechnical impacts.

14
15 Without the Shore terminal, other area marine terminals would be required to increase
16 inbound and outbound shipments to meet regional refining demands. Increasing the
17 number of shipments at the other area marine terminals should not result in
18 geotechnical impacts since these wharves are operational. Any activity associated with
19 a wharf accepting larger vessels than the wharf is currently able to handle, may be
20 subject to a separate CEQA review and structural evaluation.

21 22 Increased Use of Existing Pipelines for Continued Operation of the Upland Facility 23 Alternative

24
25 For this alternative, it is assumed that the Shore upland facility would continue to
26 function utilizing only land-based pipelines already in place. Therefore, no construction
27 would be required to utilize these pipelines and no geotechnical impacts would occur.
28 Under this alternative, increased shipping would occur at these wharves, and no impact
29 is foreseen. Any activity associated with a wharf accepting larger vessels than the
30 wharf is currently able to handle, may be subject to a separate CEQA review and
31 structural evaluation. Therefore, geotechnical impacts to these marine terminals are
32 considered less than significant (Class III).

33 34 Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

35
36 To use the PG&E pipeline would require examination of pipeline integrity, construction to
37 reconnect the segment in the city of Martinez, and construction to provide connections
38 to these three marine terminals. There could be a potential for seismic impacts.
39 Pipelines are typically flexible enough to withstand strong ground shaking without
40 rupturing. Special design or flexible connections need to be considered for areas where
41 the pipeline crosses active faults and at connecting points to valves and storage
42 facilities. However, leaks from pipelines can be caused by seismic forces, improper
43 engineering design, corrosion, and joint failure, and have the potential to result in
44 significant impacts (Class II), as well as impacts to resources as presented in other
45 sections.

ES.5.12 Environmental Justice

ES.5.12.1 Proposed Project

Census block group 3200.01-3 has a Hispanic origin population percentage that is greater than the corresponding percentages for the city of Martinez and Contra Costa County, and thus is considered to have a meaningfully greater Hispanic origin population. As presented in the Operational Safety/Risk of Upset section, a hazard footprint was calculated for blasts/explosions that were found to have an less than significant impact (Class III) on public safety as there are no public assemblage areas within 1,500 feet of the wharf area, and the pier is 1,700 feet long.

Consideration of the Proposed Project impacts of oil spills on census block 3200.01-3 also was evaluated. Overall, Proposed Project significant impacts (Class I) of oil spills on water quality, biological resources, fisheries, land use, recreation, and visual resources as they may affect the minority population, were found to be less than significant (Class III) because oil spills have the potential of spreading throughout the Carquinez Strait and Suisun Bay, with the potential to adversely affect resources used by the entire Bay community, whether or not they are minority, Hispanic origin, or low-income.

ES.5.12.2 Alternatives

No Project Alternative

Environmental Justice impacts would not occur if there were no marine terminal. The impact on Asian and African American populations would be transferred to other area marine terminals, as this impact is a Bay-wide problem. Impacts associated with the Shore Facility would be less than significant (Class III).

Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative

If existing line capacity is increased, there would be an adverse but less than significant impact (Class III) on local communities, as there would be no operational changes on the pipelines. As above, the oil spill impact on minority populations would be transferred to other area marine terminals, but this impact is a Bay-wide problem (Class III). Impacts associated with the Shore Facility would be less than significant (Class III).

Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

Reactivation of the PG&E fuel line would place this line into operation which would increase the risk of oil spills above existing conditions. Because the city of Martinez was identified by the MTC as a low-income community, any oil spills from this line may have the potential to cause significant (Class I or II) environmental justice impacts. As above, the oil spill impacts on minority populations would be transferred to other area marine terminals, but this impact is a Bay-wide problem (Class III).

Table ES-1
Summary of Impacts and Mitigation Measures for Proposed Project

Impact Classes:

Class I – (significant adverse impact that remains significant after mitigation);

Class II – (significant adverse impact that can be eliminated or reduced below an issue's significance criteria);

Class III – (adverse impact that does not meet or exceed an issue's significance criteria); or

Class IV – (beneficial impact).

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
OPERATIONAL SAFETY/RISK OF UPSET			
OS-1	There are no deficiencies with the existing deck drainage system or procedures that would pose a risk for, or increase the potential for spills at the terminal from routine operations.	III	None required.
OS-2	Potential impacts to public safety from a gasoline release are less than significant since the vapors evaporate quickly.	III	None required.
OS-3	Shore's response capability for containment of spills during transfer operations would be adverse and significant for spills greater than 50 bbls, and range from spills that can be contained during first response efforts with rapid cleanup (Class II), to those complex spills that result in a significant impact (Class I) with residual effects after mitigation.	I or II	OS-3a: Provide quick release devices that would allow a vessel to leave the wharf as quickly as possible in the event of an emergency (fire or accident that could lead to a spill) that could impact the wharf or the vessel. OS-3b: Install tension monitoring devices on the wharf that would avoid excess strain on mooring lines and avoid damage that could result in spills. OS-3c: Install Allision Avoidance System (AAS) at the terminal to prevent damage to the pier and/or vessel during docking operations. OS-3d: Develop a comprehensive preventative maintenance program for the wharf that includes periodic inspection of all components related to transfer operations. The program shall be subject to review and approval by the CSLC.
OS-4	Spills from the terminal during non-transfer periods would be associated with pipelines and are considered a significant (Class II) impact if spills are less than 50 bbls, or significant (Class I) impacts for spills greater than 50 bbls.	I or II	Implement measure OS-3d. (See also GEO-11.)

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
OS-5	Shore Terminals Wharf Operations Manual requires minor revisions to become current.	II	OS-5: Shore Terminals shall update and bring the Wharf Operations Manual current. Revise the manual by providing current names of responsible persons at the terminal and the names of the current response contractors. Submit the Manual to the CSLC for review and approval within 6 months of lease implementation.
OS-6	Public areas are beyond the hazard footprint boundary, thus fires and explosions would not cause a public safety risk. However, the wharf Operations Manual does not address fire emergency procedures and the wharf does not meet detection/suppression system requirements.	II	OS-6a: Shore shall implement mitigation measure OS-3a to provide for quick release devices that would allow a vessel to depart the wharf quickly would help in the event of a fire. OS-6b: Shore Terminals shall develop a set of procedures for dealing with tank vessel fires and explosions for tankers berthed at the Shore terminal. The procedures should include the steps to follow in the event of a tank vessel fire and describe how Shore and the vessel will coordinate activities. The procedures shall also identify other capabilities that can be procured if necessary in the event of a major incident. The procedures shall be submitted to CSLC within 6 months of lease renewal. CSLC shall have final approval of the plan. OS-6c: Shore Terminals shall ensure that the fire detection/ suppression system conforms to the proposed MOTEMS, Section 8.0.
OS-7	The site is secure from public access.	III	None required.
OS-8	Spills from accidents in the Bay could result in impacts to water quality or biological resources that could be significant adverse (Class II) impacts for those that can be contained during first response efforts; or significant adverse (Class I) impacts that would have residual impacts. While Shore does not have legal responsibility for tankers, it does have responsibility to participate in improving general response capabilities.	I or II	OS-8a: As a lease condition, Shore shall agree to participate in an analysis to determine the adequacy of the existing VTS in the Bay Area, if such a study is conducted by a federal, state, or local agency during the life of the lease. Agencies such as the San Francisco Bay Harbor Safety Committee often conduct studies of safety issues within the Bay Area. As vessel traffic increases in and around the Bay Area and as technology improves, it may be necessary and feasible to upgrade and expand the VTS in and around the Bay Area. Shore shall participate in this analysis and contribute a pro-rata share toward the upgrade and expansion of the system, if required to do so by the CSLC. OS-8b: As a lease condition, Shore shall agree to respond to the spill as if it were its own, without assuming liability, until such time as the vessel's response organization can take over management of the response actions in a coordinated manner.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
WATER QUALITY			
WQ-1	Disturbed sediments could cause a brief, localized depression in dissolved oxygen concentrations, but would disperse rapidly in strong tidal currents and tidal mixing with Bay waters of high dissolved oxygen concentration. Such events would occur for an hour or less during a 24-hour period and be limited to the immediate vicinity of the terminal.	III	None required.
WQ-2	Discharge of ballast water that contains harmful microorganisms could impair several of the project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat.	I	WQ-2: Shore terminal does not have any facilities to treat ballast water for microorganisms, so Shore shall ensure that any vessel using its terminal complies with the California Marine Invasive Species Control Act (Public Resources Code Sections 71200 through 71271. See Appendix E for key components of the Act). Vessels must exchange their ballast water in mid-ocean waters, before entering the waters of the state or they must retain all ballast water on board the vessel (Public Resources Code Section 71204.2). Vessels that have not complied with the Act shall not be allowed to moor at the terminal. Shore shall complete a ballast water reporting form, as approved by CSLC, for each vessel using the terminal and fax it to the Ballast Water Program within 24 hours. This reporting form shall state the ballast water source and where the vessel discharged ballast water. Shore Terminals and CSLC staff shall meet annually every March throughout the lease term, discuss the effectiveness of this mitigation measure, and make adjustments to the implementation of this measure. Shore Terminals shall adhere to the current "Ballast Water Management for Control of Nonindigenous Species" as a part of Public Resources Code Section 71200 until January 1, 2010 or any date extension thereof. This measure will provide a tracking mechanism and shall remain in effect until such time that more stringent requirements are developed.
WQ-3	Spills of sanitary wastewater, bilge water, and non-segregated ballast water, could degrade water quality and many spills would constitute chronic long-term degradation of water quality.	II	WQ-3: Shore shall prepare a SWPPP for the marine terminal that includes Best Management practices (BMPs) specifically to prevent leaks and spills during transfer of liquids between vessels and trucks on the wharf. The SWPPP shall be prepared within 6 months of lease implementation and reviewed by the CSLC and be available to the RWQCB.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
WQ-4	The slow leaching of zinc anodes may increase metal concentrations, but is less than significant; Cooling water discharges on water quality would be negligible and not exceed California Thermal Plan limitations. A contracted garbage disposal firm disposes the terminal operations trash.	III	None required.
WQ-5	Marine anti-fouling paints are highly toxic containing copper, sodium, zinc, and tributyltin (TBT) and their use on vessels associated with the Shore terminal is considered significant.	I	WQ-5: Shore Terminals shall require that vessel operators document that vessels using the marine terminal have had no new applications of TBT or other metal-based anti-fouling paints applied after January 1, 2003. Beginning in 2008 Shore Terminals shall require deny moorage to vessels mooring at its dock without prior proof of compliance with the IMO mandate prohibiting the presence of organotin-based biocides on ship hulls.
WQ-6	Routine vessel maintenance would have the potential to degrade water quality due to chronic spills during transfers of lubricating oils.	II	WQ-6: Implement WQ-3 for preparation of a SWPPP.
WQ-7	Stormwater runoff from the Shore terminal may contribute pollutants to the Bay in concentrations that may adversely affect some benthic species within the local area.	II	WQ-7: Implement WQ-3, plus additional BMPs to reduce the input of chemicals to the Bay from the marine terminal, including (at a minimum) (1) conducting all vehicle maintenance on land not over water or marshland, (2) berming all areas on the pier where maintenance activities are being conducted and cleaning up all spilled contaminants before berms are removed, (3) washing the surface of the pier to the extent practical and directing washwater into sumps, (4) maintenance of sumps, and (5) posting signs to educate all workers to the importance of keeping contaminants from entering the Bay.
WQ-8	The effects of dredging and dredged material disposal on water quality are regulated and subject to acquisition of a dredging permit prior to dredging.	III	None required.
WQ-9	Potential impacts on water quality can result from leaks or spills. Small leaks or spills (less than 50 bbl) related to Shore operations could result in significant (Class II) impacts, while large spills (greater than 50 bbl) could result in significant adverse impacts (Class I).	I or II	WQ-9: Implement OS-3a through OS-3d (Operational Safety/Risk of Upset).

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
WQ-10	A significant impact to water quality (Class I or II impact) could result from leaks or an accidental spill of crude oil or oil product from a vessel spill along tanker routes either in San Francisco Bay or outer coast waters.	I or II	WQ-10: Shore Terminals shall implement mitigation measures OS-8a and OS-8b of the Operational Safety/Risk of Upset Section addressing potential participation in VTS upgrade evaluations, and Shore response actions for spills at or near the terminal.
BIOLOGICAL RESOURCES			
BIO-1	Shore terminal ship traffic operations represents an incremental amount compared to the background noise of ship traffic in the Bay and along outer coast tanker routes. Disturbance to fishes and birds from routine operations at and near the terminal are less than significant.	III	None required.
BIO-2	The area near the Shore Terminals berth where propeller wash and bow thrusters may disturb sediments is very small compared to the amount of benthic habitat in the project area, and impacts of tanker sediment turbulence on benthic communities are less than significant.	III	None required.
BIO-3	Loss of juvenile Dungeness crabs and young Chinook salmon would be significant if dredging occurs when juveniles are migrating through the area. Less than significant impacts occur to plankton, other benthos, other fishes, and birds.	II	BIO-3a: In order to reduce the entrainment of juvenile Dungeness crab, Shore Terminals shall schedule dredging to avoid the month of September when juvenile Dungeness crabs are most abundant in the project area. BIO-3b: Although chances of entrainment of salmon is relatively low, to protect the salmon, Shore Terminals shall schedule dredging in July and August when winter and spring run Chinook salmon smolt activity is lowest.
BIO-4	Invasive organisms/introduction of non-indigenous species in segregated ballast water released in the Bay could have significant impacts to plankton, benthos, fishes, and birds.	I	BIO-4: Implement WQ-2 addressing ballast water management.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
BIO-5	Contaminant inputs into the water from Shore terminal operations are low when compared to other pollutant sources in the Bay. The impacts on plankton, benthos, fishes, and birds are less than significant.	III	None required.
BIO-6	A spill can significantly impact the biota at or near the Shore terminal have the potential to spread through Carquinez Strait and into Suisun and San Pablo Bays. Vulnerable biota are plankton, benthos, eelgrass, fishes, marshes, birds, and mammals. Per Operational Safety/Risk of Accidents section, small spills at the terminal (less than 50 bbls) should be able to be contained (Class II impacts). However, spills larger than 50 bbls may not be able to be contained and Shore Terminals may not have adequate boom to protect all the sensitive areas at the most risk that could be oiled within 3 hours of a spill from the terminal. Impacts from large spills are considered to be significant adverse (Class I) impacts.	I and II	<p>BIO-6a: Implement all the mitigation measures included in OS-3 through OS-6 in Operational Safety/Risk of Accidents to either lower the probability of an oil spill or increase response capability.</p> <p>BIO-6b: Demonstrate to the satisfaction of the CSLC that Shore Terminals can successfully implement its Oil Spill Response Plan and can deploy within 3 hours all the boom necessary to simultaneously protect all the sensitive resources at risk of contact with oil within 3 hours from a spill at Shore Terminals.</p> <p>BIO-6c: Identify a source of sonic hazing devices to scare birds away from Suisun Shoal and demonstrate to the CSLC that these devices can be deployed within 3 hours of a spill at Shore Terminals.</p> <p>BIO-6d: When a spill occurs, develop procedures for clean up of any sensitive biological areas contacted by oil, in consultation with biologists from CDFG and USFWS, to avoid damage from clean up activities.</p> <p>BIO-6e: If damage occurs, the last resort is restoration and compensation. Any loss of resources shall be documented as soon as possible after a large spill. The sampling methods and design should be determined beforehand, and the plan should include provisions for getting resources onsite as soon as possible so that post-spill studies can begin immediately.</p>
BIO-7	A significant impact to biological resources could result from spills of crude oil or product from a vessel in transit along tanker routes either in San Francisco Bay or outer coast waters.	I and II	BIO-7: Implement OS-8a and OS-8b of the Operational Safety/Risk of Upset section addressing potential participation in VTS upgrade evaluations, and Shore response actions for spills at or near the terminal.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
COMMERCIAL AND SPORTS FISHERIES			
FSH-1	Shrimp trawling near the Shore terminal, is small when compared with landing from other portions of the Bay and Shore operations and the fishery is located at the Benicia Bridge away from terminal operations. No shoreline fishing occurs within 0.5 mile of the wharf. Space use conflicts with commercial and sport fishing activities are considered to be less than significant.	III	None required.
FSH-2	Invasive species discharged from ballast water could impair water quality (Impact WQ-2) and biological resources (Impact BIO-4) would also impair commercial and sports fishing activities in the Bay and outer coast.	I	FSH-2: Implement WQ-2 for ballast water management.
FSH-3	Shore contributes incrementally to water quality contamination and thus fish contamination, which could result in a loss of fishing opportunities because anglers prefer to stay away from contaminated fishing areas.	II	FSH-3: Implement WQ-3 and WQ-7 for preparation of a SWPPP and additional BMP's.
FSH-4	Space use conflicts between transiting vessels serving the Shore marine terminal could occur if commercial shrimp trawlers operate 12 hours or more per day during the fishing season.	II	FSH-4: Shore Terminals shall notify the shrimp trawlers operating in Carquinez Strait of increases in vessel transits associated with terminal operations. In addition, Shore shall inform incoming vessel operators of shrimp trawling activities near the terminal.
FSH-5	Space use conflicts between transiting vessels serving the Shore marine terminal and commercial herring operators could occur resulting in interference or displacement of herring fishing activities.	II	FSH-5: Shore Terminals shall notify the herring fishery during the herring season of vessel transits. Shore shall also participate in the Pacific herring commercial fishery annual public scoping and hearing process, part of CDFG's annual review of herring commercial fishing regulations. CDFG has the authority to modify or develop regulations to address space use conflicts between the fishery and Shore's operations.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
FSH-6	Space use conflicts between sport fisheries in the Bay and transiting vessels serving the Shore marine terminal are small and considered less than significant.	III	None required.
FSH-7	Vessel operators handling crude oil voluntarily agree to maintain a minimum distance of 50 nautical miles offshore the mainland. Most fishing off California is generally within 15 to 20 miles of shore through commercial and sport fishing grounds. No space use conflicts occur.	III	None required.
FSH-8	Shrimp, herring and sport fisheries in central and north San Francisco Bay, San Pablo Bay, Carquinez Strait, Napa River and Honker Bay are at highest risk of spill contamination. Areas upstream of the confluence of the Sacramento and San Joaquin rivers may also suffer harm. In addition the Bay marinas, launch ramps and fishing access points may be threatened, contaminated or closed. Impacts to Bay commercial and sport fisheries would result from oil spill accidents originating at the Shore marine terminal or from transiting tankers that service the terminal.	I or II	<p>FSH-8a: Implement mitigation measures OS-3 through OS-6 in Operational Safety/Risk of Accidents, and mitigation measures BIO-6b through BIO-6d to lower the probability of oil spills and increase response capability.</p> <p>FSH-8b: Post notifications at spill sites and marinas, launch ramps and fishing access points to warn fishing interests of locations of contaminated sites. Notices shall be written in English and Spanish, and be posted in areas most likely to be seen by fishing interests.</p> <p>FSH-8c: Provide financial compensation in accordance with the California Oil Spill Prevention and Response Act.</p> <p>FSH-8d: Contribute to independent public or private organizations, acceptable to the CSLC, who evaluate the effectiveness of mitigation measures (results of the evaluation would be available to public decision-makers to ensure refinement, if necessary, modification of mitigation measures). Evaluation would be done only after an accident and would include monitoring using scientifically accepted protocols. Contributions would be determined by the level of impact and in cooperation with the various organizations, agencies, and the CSLC.</p>

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
LAND USE AND RECREATION			
LU-1	Marine terminal operations would not conflict with any existing or future planned policy issues or plans.	III	None required.
LU-2	Marine terminal operations would be compatible with adjacent and proximate land uses. Physical land use impacts would be less than significant.	III	None required.
LU-3	A number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) are within the potential area that could be impacted by the spread of oil. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and result in significant adverse (Class I and II) impacts.	I and II	LU-3: Mitigation measures for spills at the Shore terminal would be the responsibility of Shore Terminal operations. Specific measures are those presented in Operational Safety/Risk of Upset; Water Quality; Biological Resources; and Commercial and Sport Fisheries.
LU-4	Spills that beach along sensitive land use areas or heavily used areas including recreational areas would limit or preclude such uses and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I and II	LU-4: Shore Terminals shall implement measures OS-8a and OS-8b in Operational Safety/Risk of Upset. Other mitigation measures for accidents in the shipping lanes would not be Shore Terminals responsibility, but would fall to the vessel operator/owner.
AIR QUALITY			
AQ-1	No major construction is proposed as part of the 20-year lease. Minor upgrades, maintenance and repairs would be less than significant.	III	None required.
AQ-2	Measured and calculated criteria pollutant emissions are below existing yearly BAAQMD permitted levels. Continued operation of the marine terminal at current throughput levels would not result in air quality emissions impacts.	III	None required.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
AQ-3	Since the facility is already operational, worker commute emissions are already part of ambient conditions, thus non-permitted emissions impacts are less than significant.	III	None required.
AQ-4	Dredging is a permitting activity that is calculated into the Bay Area's baseline conditions. Air quality emissions will not increase from continued dredging activities over the term of the proposed 20-year lease.	III	None required.
AQ-5	Tanker pumping, transit, and/or tug combustion emissions could allow for an increase in throughput at the marine terminal. Thus, future operational emissions (both indirect and direct) have the potential to exceed daily and yearly significance thresholds (existing permit limits).	II	AQ-5: Mitigation should be focused on the use of best available control technology (BACT) available at the time of any expansion of the upland facility. Increased operations would require additional permitting through the BAAQMD, which would set limitations on allowable emissions levels and require offsets as necessary.
AQ-6	The Shore marine terminal does not emit odors that are/have been reported in the local area. No sensitive receptors are located in the area.	III	None required.
AQ-7	The Shore terminal is in compliance with the BAAQMD permitting for hazardous and toxic pollutants.	III	None required.
NOISE			
N-1	Because the marine terminal already exists, it is considered part of the ambient noise environment. It is located in an industrial area with no nearby sensitive receptors. Over the lease period, no sensitive receptors are to be constructed proximate to the terminal.	III	None required.
N-2	No expansion of marine terminal operations are expected to occur over the 20-year lease period. Vessel activities are expected to remain the same as that of existing conditions.	III	None required.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
VEHICULAR AND RAIL TRANSPORTATION			
TR-1	No increase in vehicular traffic from wharf operations would occur during the lease period.	III	None required.
VISUAL RESOURCES/LIGHT AND GLARE			
VR-1	Over the lease period, only one tanker would be berthed at the Shore wharf at a time, which is the same as existing conditions. Also, as the wharf cannot be seen from Waterfront Road, views are obstructed and the wharf is distant.	III	None required.
VR-2	Spills would change the color and texture of water and shoreline conditions. The visual impacts of a spill could last for a long period of time, depending on the level of physical impact and cleanup ability, and are considered to be adverse and significant (Class I or II).	I or II	VR-2: Mitigation measures for oil spill impacts include those measures for contingency planning and response as presented in Operational Safety/Risk of Upset and Biological Resources.
VR-3	Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewshed and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I or II	VR-3: Shore Terminals shall implement measures OS-8a and OS-8b in Operational Safety/Risk of Upset. Other mitigation measures for accidents in the shipping lanes would not be Shore Terminals responsibility, but would fall to the vessel operator/owner.
CULTURAL RESOURCES			
CR-1	The Shore marine terminal is not eligible as a historic resource and there are no other potential historical resources in the project area, thus there are no impacts.	III	None required.
CR-2	There are no shipwrecks near the wharf, thus there would be no impacts on cultural resources from maintenance dredging.	III	None required.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
GEOLOGICAL RESOURCES/STRUCTURAL INTEGRITY			
GEO-1	There are no shipwrecks near the wharf, thus there would be no impacts on cultural resources from maintenance dredging.	III	None required.
GEO-2	The impact of berth dredging, natural scour or accumulation of soil in steep slopes near or adjacent to wharf piles should be considered in soil-structure interaction. In addition, liquefaction and lateral spreading resulting from any moderate earthquake may create a significant adverse impact.	II	<p>GEO-2a: In the event that such scour has been noted, then Shore shall conduct additional analysis to evaluate the potential for lateral spreading. Loss of lateral support and laterally induced additional loads should be incorporated into the overall analysis and/or design. This analysis should be conducted concurrently with a site specific liquefaction analysis (see Impact GEO-3).</p> <p>GEO-2b: Seismic evaluation of the structures and their foundations should be included in the structural analysis and geotechnical investigation in compliance with Section 6 of the proposed MOTEMS. The results and recommendations of the evaluation shall be coordinated with the mooring analysis recommendations and implementation of corrections (see GEO-10).</p>
GEO-3	The site has not had an industry standard liquefaction evaluation performed. As such, the potential for impacts from seismically induced settlement are unknown but potentially significant.	II	GEO-3: Shore shall comply with the proposed MOTEMS. As such, a site specific liquefaction evaluation shall be required to be completed within 6 months after start of the lease. The results and recommendations of the evaluation shall be coordinated with the mooring analysis recommendations and implementation of corrections (see GEO-10).
GEO-4	Shore operators may not have adequate warning time to allow a vessel to depart from the wharf to avoid damage to the vessel and/or the wharf from a tsunami.	II	<p>GEO-4a: As soon as possible, after notification of a tsunami, Shore operators shall release the vessel from its mooring and the vessel shall move away from the wharf.</p> <p>GEO-4b: Shore shall comply with Section 5 of the proposed MOTEMS mooring analysis (see GEO-10).</p>
GEO-5	During a Level 2 seismic event, the batter piles are expected to behave in a nonlinear fashion. The loading platform would undergo significant softening as a result of the global nonlinear behavior. However, structural collapse is not expected to occur as a result of the Level 2 earthquake.	III	None required.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
GEO-6	If secondary breasting dolphins are not upgraded, the potential for significant adverse impacts from an oil spill is small.	III	None required.
GEO-7	Damage to catwalks from a seismic event would not result in an oil spill, and damage can easily be repaired.	III	None required.
GEO-8	During an earthquake damage could occur in the batter pile to bent cap connections and could damage the trestle.	II	GEO-8: Within one year of the new lease, Shore shall reevaluate the loads on the bents, check the batter pile bolt connections, and adopt corrective mitigation measures.
GEO-9	The anchor bent batter pile to bent cap bolts are not capable of transmitting the predicted transverse seismic loads that could result in a loss of support for the petroleum pipelines and a spill could occur.	II	GEO-9: Shore shall reevaluate the loads in the anchor bents and batter pile connections within one year of the new lease. The anchor bents inadequacy should be addressed and corrective measures implemented within 2 years.
GEO-10	The last mooring analysis used data from sites nearby that may not reflect actual wharf conditions. There could be impacts associated with berthing and mooring capacity under actual currents, tides, and winds, with the potential for oil releases.	II	GEO-10a: Shore shall collect 12 months of data on currents, tide levels, and wind speed/direction at the wharf. GEO-10b: If data analysis shows that currents, tide, and wind speeds are significantly different (as assessed by CSLC) from that assumed in the previous analysis, Shore shall conduct a new mooring analysis consistent with the proposed MOTEMS Section 5 requirements within 12 months. GEO-10c: Within 12 months of the start of the new lease, Shore shall conduct a passing vessel study for vessels navigating within 500 feet of the wharf per MOTEMS requirements.
GEO-11	Pipeline stresses on the 30-inch pipeline in relation to movement of the loading platform and trestle, and on the pipeline expansion loop support interface along the trestle are unknown. The potential may exist for damage to the pipeline and oil leaks.	II	GEO-11a: Within 6 months of the start of the lease, Shore shall conduct a pipeline analysis on the 30-inch pipeline and the pipeline loop. GEO-11b: Shore shall ensure that all pipelines for oil transfer meet MOTEMS and CSLC regulations in CCR Title 2, Division 3, Chapter 1, Article 5.5, Sections 2564 through 2570 for ensuring pipeline integrity.

Table ES-1 (Continued)
Summary of Impacts and Mitigation Measures for Proposed Project

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
ENVIRONMENTAL JUSTICE			
EJ-1	Overall water quality, biological, and commercial and sport fisheries impacts would affect resources used by the entire Bay community, whether or not they are minority or low-income, and would therefore not have a disproportionate impact on a minority of low-income population, except for sports fisheries.	II	EJ-1: Should an oil spill from Shore Terminals extend beyond .5 mile from the terminal and preclude sport fishing activities for more than two days, Shore Terminals shall contribute either funds or food stuffs to a local food bank in an amount sufficient, as determined in conjunction with the CSLC, to replace food sources that would have been supplied by activities within the affected areas.

ES.6 COMPARISON OF ALTERNATIVES AND THE ENVIRONMENTALLY PREFERRED ALTERNATIVE

In accordance with Section 15126.6 of the CEQA, an EIR shall describe a reasonable range of alternatives to the project or to the location of the project. These alternatives should feasibly attain most of the basic objectives of the project, but should avoid or substantially lessen any of the significant effects of the project. The comparative merits of the alternatives should also be evaluated. The EIR must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

Alternatives analyzed in this EIR were the No Project Alternative, Increased Use of Existing Pipelines for Continued Operation of the Upland Facility Alternative, and Modification to Existing Pipelines for Continued Operation of Upland Facility (PG&E Pipeline) Alternative. Because CSLC has no jurisdiction related to the Shore upland facility, the pipeline alternatives are presented with the intent to allow for Shore's upland facility to continue to operate as a storage and transfer facility without the Shore marine terminal. A system of pipelines that connect Shore to other area terminals and refineries is in place.

The evaluation in this EIR does not consider technical feasibility or economic implications of the alternatives, which ultimately would be required if no lease were to be granted to Shore Terminals. The assumption that the pipeline alternatives would allow the Shore upland facility to continue to operate is based on a concept that, in general, appears feasible. There are unknowns related to the feasibility of obtaining agreements for pipeline capacity increases between Shore and other operators, the economics involved, and technical problems as they may relate to increased transfers between facilities. From information obtained from Shore, it does appear that the pipelines are not fully utilized and that capacity could be increased. Because alternatives under the CEQA are not required to be evaluated in equal detail as the Proposed Project, the analysis of these alternatives compares the potential environmental impacts of utilization of pipelines for upland facility operation on this conceptual level. Because operation of the Shore marine terminal is closely tied to operations at nearby refineries, alternative actions at the Shore marine terminal will have implications at these other facilities. A detailed technical and economic feasibility study would be necessary to further evaluate these alternatives.

The comparison between the Proposed Project and these alternatives is presented in Table ES-2. All alternatives eliminate all of the impacts directly associated with the Proposed Project. However, due to the demand for crude oil and products, the same or similar impacts as those associated with the Proposed Project would not be eliminated, but transferred to other currently operating marine terminals in the Bay. This applies to all three alternatives. In addition, Shore's current clients rely on Shore for offloading of crude oil as other marine terminals may have limited berthing areas. Without the Shore wharf, the capacity of other marine terminals may be taxed, potentially increasing vessel congestion, collisions, as well as economics while vessels wait to berth and offload. The pipeline alternatives would have the potential for on land spills/leaks that could have significant impacts (Class I or II), but with the potential for less overall severity than spills

in the water. The CEQA requires the identification of the Environmentally Superior Alternative (ESA). Thus, the No Project Alternative may be considered the least impacting of the alternatives since the Shore wharf would not be operational and pipelines are not considered. However, under the CEQA, if the ESA is the "No Project" Alternative, then the EIR shall identify an ESA among the other alternatives. Because there would be no need to modify existing pipelines, the Existing Pipelines for Continued Operation of the Upland Facility Alternative is slightly superior to the Modification to Existing Pipelines for Continued Operation of Upland Facility (PG&E Pipeline) Alternative.

Table ES-2
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact Class

- I = Significant adverse impact that remains significant after mitigation.
- II = Significant adverse impact that can be eliminated or reduced below an issue's significance criteria.
- III = Adverse impact that does not meet or exceed an issue's significance criteria.
- IV = Beneficial impact.
- NA = Not Applicable to Shore Terminals. May transfer similar impact to other area terminals.

Alt 1: Increased Use of Existing Pipelines for Continued Operation of Upland Facility Alternative

Alt 2: Modifications to Existing Pipelines for Continued Operation of Upland Facility Alternative

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
OPERATIONAL SAFETY/RISK OF UPSET					
OS-1	There are no deficiencies with the existing deck drainage system or procedures that would pose a risk for, or increase the potential for spills at the terminal from routine operations.	III	IV	NA	NA
OS-2	Potential impacts to public safety from a gasoline release are less than significant since the vapors evaporate quickly.	III	IV	III	III
OS-3	Shore's response capability for containment of spills during transfer operations would be adverse and significant for spills greater than 50 bbls, and range from spills that can be contained during first response efforts with rapid cleanup (Class II), to those complex spills that result in a significant impact (Class I) with residual effects after mitigation.	I or II	IV	NA	NA

Table ES-2 (Continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
OS-4	Spills from the terminal during non-transfer periods would be associated with pipelines and are considered a significant (Class II) impact if spills are less than 50 bbls, or significant (Class I) impacts for spills greater than 50 bbls.	I or II	IV	NA	NA
OS-5	Shore Terminals Wharf Operations Manual requires minor revisions to become current.	II	IV	NA	NA
OS-6	Public areas are beyond the hazard footprint boundary, thus fires and explosions would not cause a public safety risk. However, the wharf Operations Manual does not address fire emergency procedures and the wharf does not meet detection/suppression system requirements.	II	IV	NA	NA
OS-7	The site is secure from public access.	III	III	III	III
OS-8	Spills from accidents in the Bay could result in impacts to water quality or biological resources that could be significant adverse (Class II) impacts for those that can be contained during first response efforts; or significant adverse (Class I) impacts that would have residual impacts. While Shore does not have legal responsibility for tankers, it does have responsibility to participate in improving general response capabilities.	I or II	IV	NA	NA
WATER QUALITY					
WQ-1	Disturbed sediments could cause a brief, localized depression in dissolved oxygen concentrations, but would disperse rapidly in strong tidal currents and tidal mixing with Bay waters of high dissolved oxygen concentration. Such events would occur for an hour or less during a 24-hour period and be limited to the immediate vicinity of the terminal.	III	IV	NA	NA
WQ-2	Discharge of ballast water that contains harmful microorganisms could impair several of the project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat.	I	IV	NA	NA
WQ-3	Spills of sanitary wastewater, bilge water, and non-segregated ballast water, could degrade water quality and many spills would constitute chronic long-term degradation of water quality.	II	IV	NA	NA
WQ-4	The slow leaching of zinc anodes may increase metal concentrations, but is less than significant; Cooling water discharges on water quality would be negligible and not exceed California Thermal Plan limitations. A contracted garbage disposal firm disposes the terminal operations trash.	III	IV	NA	NA

Table ES-2 (Continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
WQ-5	Marine anti-fouling paints are highly toxic containing copper, sodium, zinc, and tributyltin (TBT) and their use on vessels associated with the Shore terminal is considered significant.	I	IV	NA	NA
WQ-6	Routine vessel maintenance would have the potential to degrade water quality due to chronic spills during transfers of lubricating oils.	II	IV	NA	NA
WQ-7	Stormwater runoff from the Shore terminal may contribute pollutants to the Bay in concentrations that may adversely affect some benthic species within the local area.	II	IV	NA	NA
WQ-8	The effects of dredging and dredged material disposal on water quality are regulated and subject to acquisition of a dredging permit prior to dredging.	III	IV	NA	NA
WQ-9	Potential impacts on water quality can result from leaks or spills. Small leaks or spills (less than 50 bbl) related to Shore operations could result in significant (Class II) impacts, while large spills (greater than 50 bbl) could result in significant adverse impacts (Class I).	I or II	IV	NA	NA
WQ-10	A significant impact to water quality (Class I or II impact) could result from leaks or an accidental spill of crude oil or oil product from a vessel spill along tanker routes either in San Francisco Bay or outer coast waters.	I or II	IV	NA	NA
BIOLOGICAL RESOURCES					
BIO-1	Shore terminal ship traffic operations represents an incremental amount compared to the background noise of ship traffic in the Bay and along outer coast tanker routes. Disturbance to fishes and birds from routine operations at and near the terminal are less than significant.	III	IV	NA	NA
BIO-2	The area near the Shore Terminals berth where propeller wash and bow thrusters may disturb sediments is very small compared to the amount of benthic habitat in the project area, and impacts of tanker sediment turbulence on benthic communities are less than significant.	III	IV	NA	NA
BIO-3	Loss of juvenile Dungeness crabs and young Chinook salmon would be significant if dredging occurs when juveniles are migrating through the area. Less than significant impacts occur to plankton, other benthos, other fishes, and birds.	II	IV	NA	NA
BIO-4	Invasive organisms/introduction of non-indigenous species in segregated ballast water released in the Bay could have significant impacts to plankton, benthos, fishes, and birds.	I	IV	NA	NA

Table ES-2 (Continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
BIO-5	Contaminant inputs into the water from Shore terminal operations are low when compared to other pollutant sources in the Bay. The impacts on plankton, benthos, fishes, and birds are less than significant.	III	IV	NA	NA
BIO-6	A spill can significantly impact the biota at or near the Shore terminal have the potential to spread through Carquinez Strait and into Suisun and San Pablo Bays. Vulnerable biota are plankton, benthos, eelgrass, fishes, marshes, birds, and mammals. Per Operational Safety/Risk of Accidents section, small spills at the terminal (less than 50 bbls) should be able to be contained (Class II impacts). However, spills larger than 50 bbls may not be able to be contained and Shore Terminals may not have adequate boom to protect all the sensitive areas at the most risk that could be oiled within 3 hours of a spill from the terminal. Impacts from large spills are considered to be significant adverse (Class I) impacts.	I and II	IV	NA	NA
BIO-7	A significant impact to biological resources could result from spills of crude oil or product from a vessel in transit along tanker routes either in San Francisco Bay or outer coast waters.	I and II	IV	NA	NA
COMMERCIAL AND SPORTS FISHERIES					
FSH-1	Shrimp trawling near the Shore terminal, is small when compared with landing from other portions of the Bay and Shore operations and the fishery is located at the Benicia Bridge away from terminal operations. No shoreline fishing occurs within 0.5 mile of the wharf. Space use conflicts with commercial and sport fishing activities are considered to be less than significant.	III	IV	NA	NA
FSH-2	Invasive species discharged from ballast water could impair water quality (Impact WQ-2) and biological resources (Impact BIO-4) would also impair commercial and sports fishing activities in the Bay and outer coast.	I	IV	NA	NA
FSH-3	Shore contributes incrementally to water quality contamination and thus fish contamination, which could result in a loss of fishing opportunities because anglers prefer to stay away from contaminated fishing areas.	II	IV	NA	NA
FSH-4	Space use conflicts between transiting vessels serving the Shore marine terminal could occur if commercial shrimp trawlers operate 12 hours or more per day during the fishing season.	II	IV	NA	NA

Table ES-2 (Continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
FSH-5	Space use conflicts between transiting vessels serving the Shore marine terminal and commercial herring operators could occur resulting in interference or displacement of herring fishing activities.	II	IV	NA	NA
FSH-6	Space use conflicts between sport fisheries in the Bay and transiting vessels serving the Shore marine terminal are small and considered less than significant.	III	IV	NA	NA
FSH-7	Vessel operators handling crude oil voluntarily agree to maintain a minimum distance of 50 nautical miles offshore the mainland. Most fishing off California is generally within 15 to 20 miles of shore through commercial and sport fishing grounds. No space use conflicts occur.	III	IV	NA	NA
FSH-8	Shrimp, herring and sport fisheries in central and north San Francisco Bay, San Pablo Bay, Carquinez Strait, Napa River and Honker Bay are at highest risk of spill contamination. Areas upstream of the confluence of the Sacramento and San Joaquin rivers may also suffer harm. In addition the Bay marinas, launch ramps and fishing access points may be threatened, contaminated or closed. Impacts to Bay commercial and sport fisheries would result from oil spill accidents originating at the Shore marine terminal or from transiting tankers that service the terminal.	I or II	IV	NA	NA
LAND USE AND RECREATION					
LU-1	Marine terminal operations would not conflict with any existing or future planned policy issues or plans.	III	III	NA	NA
LU-2	Marine terminal operations would be compatible with adjacent and proximate land uses. Physical land use impacts would be less than significant.	III	III	NA	NA
LU-3	A number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) are within the potential area that could be impacted by the spread of oil. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and result in significant adverse (Class I and II) impacts.	I or II	IV	NA	NA
LU-4	Spills that beach along sensitive land use areas or heavily used areas including recreational areas would limit or preclude such uses and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I or II	IV	NA	NA

Table ES-2 (Continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
AIR QUALITY					
AQ-1	No major construction is proposed as part of the 20-year lease. Minor upgrades, maintenance and repairs would be less than significant.	III	IV	NA	NA
AQ-2	Measured and calculated criteria pollutant emissions are below existing yearly BAAQMD permitted levels. Continued operation of the marine terminal at current throughput levels would not result in air quality emissions impacts.	III	IV	NA	NA
AQ-3	Since the facility is already operational, worker commute emissions are already part of ambient conditions, thus non-permitted emissions impacts are less than significant.	III	IV	NA	NA
AQ-4	Dredging is a permitting activity that is calculated into the Bay Area's baseline conditions. Air quality emissions will not increase from continued dredging activities over the term of the proposed 20-year lease.	III	IV	NA	NA
AQ-5	Tanker pumping, transit, and/or tug combustion emissions could allow for an increase in throughput at the marine terminal. Thus, future operational emissions (both indirect and direct) have the potential to exceed daily and yearly significance thresholds (existing permit limits).	II	IV	NA	NA
AQ-6	The Shore marine terminal does not emit odors that are/have been reported in the local area. No sensitive receptors are located in the area.	III	IV	NA	NA
AQ-7	The Shore terminal is in compliance with the BAAQMD permitting for hazardous and toxic pollutants.	III	IV	NA	NA
NOISE					
N-1	Because the marine terminal already exists, it is considered part of the ambient noise environment. It is located in an industrial area with no nearby sensitive receptors. Over the lease period, no sensitive receptors are to be constructed proximate to the terminal.	III	IV	NA	NA
N-2	No expansion of marine terminal operations are expected to occur over the 20-year lease period. Vessel activities are expected to remain the same as that of existing conditions.	III	IV	NA	NA
VEHICULAR AND RAIL TRANSPORTATION					
TR-1	No increase in vehicular traffic from wharf operations would occur during the lease period.	III	IV	NA	NA

Table ES-2 (Continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
VISUAL RESOURCES/LIGHT AND GLARE					
VR-1	Over the lease period, only one tanker would be berthed at the Shore wharf at a time, which is the same as existing conditions. Also, as the wharf cannot be seen from Waterfront Road, views are obstructed and the wharf is distant.	III	IV	NA	NA
VR-2	Spills would change the color and texture of water and shoreline conditions. The visual impacts of a spill could last for a long period of time, depending on the level of physical impact and cleanup ability, and are considered to be adverse and significant (Class I or II).	I or II	IV	NA	NA
VR-3	Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewshed and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.	I or II	IV	NA	NA
CULTURAL RESOURCES					
CR-1	The Shore marine terminal is not eligible as a historic resource and there are no other potential historical resources in the project area, thus there are no impacts.	III	IV	NA	NA
CR-2	There are no shipwrecks near the wharf, thus there would be no impacts on cultural resources from maintenance dredging.	III	IV	NA	NA
GEOLOGICAL RESOURCES/STRUCTURAL INTEGRITY					
GEO-1	The Shore facility is not located in the Alquist-Priolo earthquake fault zone. Surface rupture from known active faults is not anticipated, and impacts would be less than significant.	III	III	NA	NA
GEO-2	The impact of berth dredging, natural scour or accumulation of soil in steep slopes near or adjacent to wharf piles should be considered in soil-structure interaction. In addition, liquefaction and lateral spreading resulting from any moderate earthquake may create a significant adverse impact.	II	IV	NA	NA
GEO-3	The site has not had an industry standard liquefaction evaluation performed. As such, the potential for impacts from seismically induced settlement are unknown but potentially significant.	II	IV	NA	NA
GEO-4	Shore operators may not have adequate warning time to allow a vessel to depart from the wharf to avoid damage to the vessel and/or the wharf from a tsunami.	II	IV	NA	NA

Table ES-2 (Continued)
Summary of Environmental Impacts for Proposed Project and Alternatives

Impact No.	Impact Description	Proposed Project	No Project	Alt 1	Alt 2
GEO-5	During a Level 2 seismic event, the batter piles are expected to behave in a nonlinear fashion. The loading platform would undergo significant softening as a result of the global nonlinear behavior. Impacts are less than significant.	III	IV	NA	NA
GEO-6	If secondary breasting dolphins are not upgraded, the potential for significant adverse impacts from an oil spill is small.	III	IV	NA	NA
GEO-7	Damage to catwalks from a seismic event would not result in an oil spill, and damage can easily be repaired.	III	IV	NA	NA
GEO-8	During an earthquake damage could occur in the batter pile to bent cap connections and could damage the trestle.	II	IV	NA	NA
GEO-9	The anchor bent batter pile to bent cap bolts are not capable of transmitting the predicted transverse seismic loads that could result in a loss of support for the petroleum pipelines and a spill could occur.	II	IV	NA	NA
GEO-10	The last mooring analysis used data from sites nearby that may not reflect actual wharf conditions. There could be potentially significant direct and indirect impacts associated with berthing and mooring capacity under actual currents, tides and winds, with the potential for oil releases.	II	IV	NA	NA
GEO-11	Pipeline stresses on the 30-inch pipeline in relation to movement of the loading platform and trestle, and on the pipeline expansion loop support interface along the trestle are unknown. The potential may exist for damage to the pipeline and oil leaks.	II	IV	NA	NA
ENVIRONMENTAL JUSTICE					
EJ-1	Overall water quality, biological, and commercial and sport fisheries impacts would affect resources used by the entire Bay community, whether or not they are minority or low-income, and would therefore not have a disproportionate impact on a minority of low-income population, except for sport fisheries.	II	IV	NA	NA